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OF THE

SOCIETY OF ANTIQUARIES OF SCOTLAND.

SESSION

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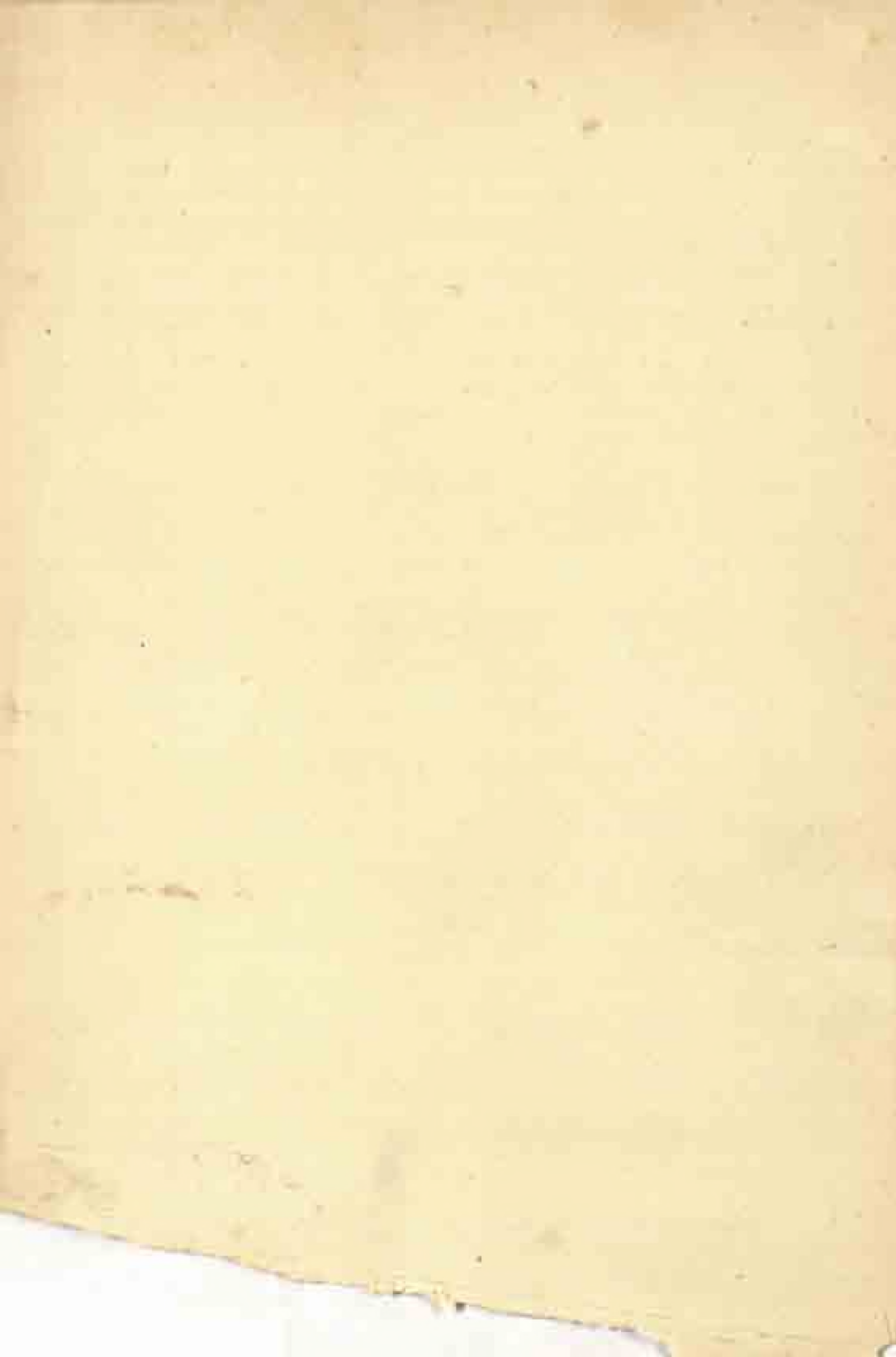
VOL. XXXVII.

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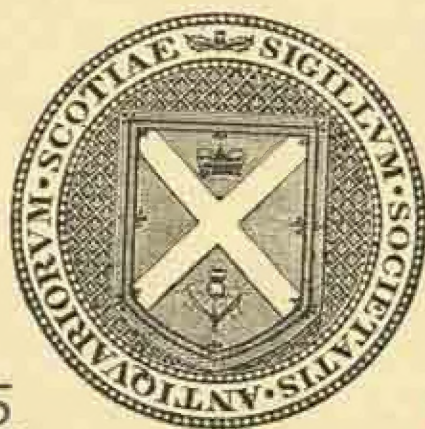
PROCEEDINGS

OF THE

Society of Antiquaries of Scotland

ONE HUNDRED AND TWENTY-THIRD SESSION

1902-1903



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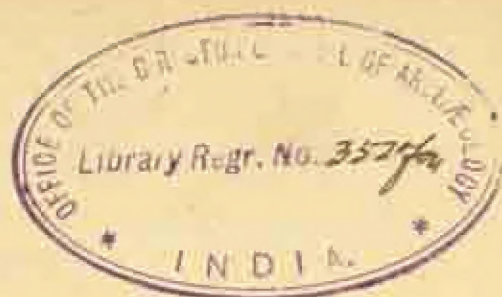


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OFFICE-BEARERS, 1902-1903.

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THE RHIND LECTURESHIP.

(Instituted 1874, in terms of a Bequest for its endowment by the late

ALEXANDER HENRY RHIND of Sibster, Hon. Mem. S.A. Scot.)

SESSION 1902-1903.

RHIND LECTURER IN ARCHAEOLOGY—P. HUME BROWN, M.A., LL.D.,
Fraser Professor of Ancient (Scottish) History and Palaeography
in the University of Edinburgh.

LAWS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND,

INSTITUTED NOVEMBER 1780 AND
INCORPORATED BY ROYAL CHARTER 6TH MAY 1783.

(Revised and adopted November 30, 1901.)

1. The purpose of the Society shall be the promotion of ARCHÆOLOGY, especially as connected with the investigation of the ANTIQUITIES AND HISTORY OF SCOTLAND.

2. The Society shall consist of Fellows, Honorary Fellows, Corresponding Members, and Lady Associates.

3. Candidates for admission as Fellows must sign the Form of Application prescribed by the Council, and must be proposed by a Fellow and seconded by two Members of the Council. Admission shall be by ballot.

4. The Secretaries shall cause the names of the Candidates and of their Proposers to be inserted in the billet calling the Meeting at which they are to be balloted for. The Ballot may be taken for all the Candidates named in the billet at once; but if three or more black balls appear, the Chairman of the Meeting shall cause the Candidates to be balloted for singly. Any Candidate receiving less than two-thirds of the votes given shall not be admitted.

5. Honorary Fellows shall consist of persons eminent in Archaeology, who must be recommended by the Council, and balloted for in the same way as Fellows; and they shall not be liable for any fees of admission or annual subscriptions. The number of Honorary Fellows shall not exceed twenty-five.

6. Corresponding Members must be recommended by the Council and balloted for in the same way as Fellows, and they shall not be liable for any fees of admission or annual subscriptions.

7. Ladies who have done valuable work in the field of Archaeology may be admitted as Lady Associates. The number of Lady Associates shall not exceed twenty-five. They shall be proposed by the Council, and balloted for in the same way as Fellows, and shall not be liable for any fees of admission or annual subscriptions.

8. Before the name of any person is added to the List of Fellows, such person shall pay to the funds of the Society Two Guineas as an entrance fee and One Guinea for the current year's subscription, or may compound for the entrance fee and all annual subscriptions by the payment of Twenty Guineas at the time of admission. Fellows may compound for future annual subscriptions by a single payment of Fifteen Guineas after having paid five annual subscriptions; or of Ten Guineas after having paid ten annual subscriptions.

9. The subscription of One Guinea shall become due on 30th November in each year for the year then commencing; and if any Fellow who has not compounded shall fail to pay the subscription for three successive years, due application having been made for payment, the Treasurer shall report the same to the Council, by whose authority the name of the defaulter may be erased from the List of Fellows.

10. Every Fellow not being in arrears of the annual subscription shall be entitled to receive the printed Proceedings of the Society from the date of election.

11. None but Fellows shall vote or hold any office in the Society.

12. Subject to the Laws and to the control of the Society in General Meetings, the affairs of the Society shall be managed by a Council elected and appointed as hereinafter set forth. Five Members of the Council shall be a quorum.

13. The Office-Bearers of the Society shall consist of a President, three Vice-Presidents, two Secretaries for general purposes, two Secretaries for Foreign Correspondence, a Treasurer, two Curators of the Museum, a Curator of Coins, and a Librarian. The President shall be elected for a period of five years, and the Vice-Presidents for a period of three years. One of the Vice-Presidents shall retire annually by rotation and shall not again be eligible for the same office until after the lapse of one year. All the other office-bearers shall be elected for one year and shall be eligible for re-election.

14. In accordance with the agreements subsisting between the Society and the Government, the Board of Manufactures shall be represented on the Council by two of its Members (being Fellows of the Society) elected annually by the Society. The Treasury shall be represented on the Council by the King's and Lord Treasurer's Remembrancer (being a Fellow of the Society).

15. The Council shall consist of the Office-Bearers, the three representative Members above specified, and nine Fellows, elected by the Society.

16. Three of the nine elected Members of Council shall retire annually by rotation, and shall not again be eligible till after the lapse of one year. Vacancies among the elected Members of Council and Office-bearers occurring by completion of term of office, by retirement on rotation, by resignation, by death or otherwise, shall be filled by election at the Annual General Meeting. The election shall be by Ballot, upon a list issued by the Council for that purpose to the Fellows at least fourteen days before the Meeting.

17. The Council may appoint committees or individuals to take charge of particular departments of the Society's business.

18. The Annual General Meeting of the Society shall take place on St Andrew's Day, the 30th of November, or on the following day if the 30th be a Sunday.

19. The Council shall have power to call Extraordinary General Meetings when they see cause.

20. The Ordinary Meetings of the Society shall be held on the second Monday of each month, from December to May inclusive.

21. Every proposal for altering the Laws must be made through the Council; and the Secretaries, on instructions from the Council, shall cause intimation thereof to be made to all the Fellows at least one month before the General Meeting at which it is to be determined on.

Form of Special Request.

I, A. B., do hereby leave and bequeath to the Society of Antiquaries of Scotland incorporated by Royal Charter, my collection of _____, and I direct that the same shall be delivered to the said Society on the receipt of the Secretary or Treasurer thereof.

General Form of Request.

I, A. B., do hereby leave and bequeath to the Society of Antiquaries of Scotland incorporated by Royal Charter, the sum of £ _____ sterling [*to be used for the general purposes of the Society*] [*or, to be used for the special purpose, or object, of _____*], and I direct that the said sum may be paid to the said Society on the receipt of the Treasurer for the time being.

LIST OF THE FELLOWS

OF THE

SOCIETY OF ANTIQUARIES OF SCOTLAND.

NOVEMBER 30, 1903.

PATRON.
HIS MAJESTY THE KING.

- | | |
|---|--|
| 1879. ABERCROMBY, Hon. JOHN, 62 Palmerston Place,— <i>Secretary</i> . | 1892. AITKEN, JAMES H., Garterow, Falkirk. |
| 1853.*ABERUEN, FRANCIS, Garvocklea, Laurvickelirk. | 1886. ALEXANDER, W. LINDSAY, Pinkieburn, Musselburgh. |
| 1896. ADAM, FRANK, Penang Smelting Works, Province Wellesley, Penang. | 1897. ALLAN, Rev. ARCHIBALD, Channellirk, Manse, Oxtou, Berwickshire. |
| 1868. ADAM, STEPHEN, 199 Bath Street, Glasgow. | 1900. ALLARDYCE, Col. JAMES, LL.D., of Culquoch, 3 Queen's Terrace, Aberdeen. |
| 1869. AGNEW, ALEXANDER, Procurator-Fiscal, Balwherric, Dundee. | 1864.*ANDERSON, ARCHIBALD, 30 Oxford Square, London, W. |
| 1899. AGNEW, Sir ANDREW N., Bart., M.P., Lomdow Castle, Stroudier. | 1884. ANDERSON, CHARLES M., Gedgeley Park, Prestwick, Manchester. |
| 1884. AGNEW, Sir STAIR, K.C.B., M.A., 22 Buckingham Terrace. | 1889. ANDERSON, JAMES, Carrouvale, Wardle Road. |
| 1887.*AIDMAN, ANDREW, Baker, 8 Drumshough Gardens. | 1897. ANDERSON, Capt. J. H., 2nd East Lancashire Regiment, c/o Messrs Cox & Co., 18 Charing Cross, London. |
| 1898. AIDMAN, HENRY HOSKINS, 5 Prince's Square, Glasgow. | 1902.*ANDERSON, Major ROBERT D., Inglenook, Paignton, Devon. |
| 1892. AIDSA, The Most Hon. The Marquis of, Culzean Castle, Maybole. | 1871.*ANDERSON, Sir ROBERT ROWAND, LL.D., LL.B.S.A., Architect, 16 Rutland Square. |
| 1901. AITKEN, Mrs G. B., 38 Garscube Ter. | |
| 1884. AITKEN, GEORGE SHAW, Architect, 49 Queen Street. | |

An asterisk (*) denotes Life Members who have compounded for their Annual Contributions.

1865. *ANDERSON, THOMAS S., Llangarth, Newburgh, Fife.
1891. ANDERSON, WILLIAM, ARTHUR BRAD, Bearsden, Dumbartonshire.
1887. ANDERSON - BERRY, DAVID, M.D., 23 Grosvenor Crescent, St Leonards-on-Sea.
1894. ANTON, ROBERT, Craigston House, Langer, Ayrshire.
1882. ANNANDALE, THOMAS, M.D., D.C.L., Professor of Clinical Surgery, University of Edinburgh, 34 Charlotte Square.
1900. ANSTRUTHER, SIR RALPH W., Bart. of Balnaskie, Pittenweem.
1897. ANSTRUTHER-THOMSON, WILLIAM, Major, Royal Horse Guards, Kilnary, Ebor.
1901. APOTLE, His Grace The Duke of, K.T., L.L.D., Inveraray Castle, Inveraray.
1878. *ARMSTRONG, ROBERT BRUCE, 6 Randolph Cliff.
1901. ARTHUR, ALEXANDER THOMSON, Physician, Blair Detonick, Culter, Aberdeen.
1889. ATHOLL, His Grace The Duke of, K.T., Blair Castle, Blair Atholl.
1886. *ATKINSON, W. A., Knockfarrie, Pitlochry.
1868. *BAIS, JOSEPH, Brye Dewi, St David's, S. Wales.
1889. BAIN, WILLIAM, 42 Murray Place, Edinburgh.
1892. BAIN, WILLIAM, Lochheadshale, South Uist.
1900. *BAIRD, JOHN G. ALEXANDER, M.P., of Wellwood and Adamton, Monkton, Ayrshire.
1891. BAIRD, WILLIAM, Clydesdale Bank, Portobello.
1901. *BALCANQUH, The Right Hon. Lord, M.P., 74 Brook Street, London.
1883. BALFOUR, CHARLES BARRINGTON, M.P., of Newton Don, Kelso.
1885. BALFOUR, Major FRANCIS, Fernie Castle, Collesburg, Fife.
1903. BALFOUR, The Hon. JAMES MONCREEFF, 6 Rothney Terrace.
1876. BALLANTINE, ALEXANDER, 42 George Street.
1897. BANNERMAN, W. BRUCE, F.S.A., The Lindens, Sydenham Road, Croydon.
1890. BANNERMAN, WILLIAM, M.A., M.D., West Park, 30 Polwarth Terrace.
1890. BANNON, JAMES, Architect, 80 Christopher's, Dumfries.
1897. BARCLAY-ALLARDICE, ROBERT, M.A., Rosehill, Lostwithiel, Cornwall.
1899. BARNARD, FRANCIS PIERREPONT, M.A., Oxon., St Mary's Abbey, Wimburn.
1897. BARNETT, Rev. T. R., Pale U.F.C. Mans, Blackshels, Midlothian.
1880. BARNOS, JAMES, Editor of *Ironing Courier*, Inverness.
1891. BAXTER, Rev. GEORGE CHALMERS, U.F.C. Minister, Cargill, Guildtown, Perth.
1891. *BAYNE, THOMAS, 69 West Chamberland Street, Glasgow.
1877. BEAUMONT, CHARLES G., M.D., Old Manor House, Epsum, Surrey.
1880. BEDFORD, Major CHARLES HENRY, D.Sc., M.D., Professor of Chemistry, Medical College, Calcutta.
1903. BEDFORD, J. G. HAWESLEY, Rayncliffe, Rannock, Sheffield.
1872. *BEER, JOHN T., Green Droy, Rock Ferry, Cheshire.
1903. BELL, R. FITZROY, Advocate, of Temple Hall, Coblingham, 7 Annals Place.
1888. BELL, THOMAS, of Belmont, Handwood, Broughty Ferry.
1877. BELL, WILLIAM, 293 Lordship Lane, Dulwich, London, S.E.
1890. *BEVERIDGE, ESKINE, St Leonard's Hill, Dunfermline.
1888. *BEVERIDGE, HENRY, Pittmarie House, Dunfermline.

1891. **BYRERIDGE, JAMES**, *Church of Scotland's Training College*, 4 Hythwood Drive, Glasgow.
1895. ***HIGHLAND, WILLIAM**, 45 Hydepark Street, Glasgow.
1877. ***BILTON, LEWIS, W.S.**, 16 Hope Street.
1891. **BIRD, GEORGE**, St Margaret's, 35 Inverloth Place.
1882. **BLACK, WILLIAM GEORGE**, Ramoyle, Dowanhill Gardens, Glasgow.
1847. ***BLACKIE, WALTER G.**, Ph.D., LL.D., 1 Bellhaven Terrace, Salvinahle, Glasgow.
1885. **BLACKIE, WALTER RICHARD**, 6 Belgrave Crescent.
1891. **BLEIR, Rev. WILLIAM, M.A., D.D.**, Leighton Manor, Dunblane.
1879. **BLANE, HIPPOLYTE J.**, R.S.A., Architect, 25 Rutland Square.
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1857. **BODIE, ALEXANDER**, Banker, 48 Lander Road.
1885. **BONFAS, CHARLES S. M.**, 121 Westbourne Terrace, London.
1880. ***BONAS, HORATIUS, W.S.**, 3, St Margaret's Road.
1898. **BORLAND, Rev. R.**, Minister of Yarrow, Selkirkshire.
1902. **BORTHWICK, HENRY**, Borthwick Castle, Mallothian.
1829. **BOSWALL, JAMES DONALDSON, W.S.**, Donalison House, Warrle.
1893. **BOYLE, The Hon. ROBERT E.**, Colonel, 95 Ouslow Square, London.
1854. **BOXTON, THOMAS**, Norman House, Beidlington Quay, Hull.
1855. **BRAND, DAVID**, Sheriff of Ayrshire, 42 Oates Gardens.
1891. **BRAND, JAMES, C.E.**, 10 Marchmont Terrace, Glasgow.
1884. ***BREDALEBRANK, The Most Hon. The Marquess of**, K.G., Tarmouth Castle.
1887. **BROOK, ALEXANDER J. S.**, 21 Chalmers Street, —*Curator of Museum*.
1878. **BROUX-MORISON, JOHN BROUX**, of Finnerlie, Murie House, Errol.
1902. **BROWN, CHARLES**, Dundas Lodge, Kerse, Falkirk.
1887. **BROWNS, GEORGE**, 2 Spottiswoode Street.
1884. **BROWNS, G. BALDWIN, M.A.**, Professor of Fine Art, University of Edinburgh, 56 George Square.
1902. **BROWNS, P. HOME, M.A., LL.D.**, Fraser Professor of Ancient History and Palaeography, University of Edinburgh, 20 Cassville Gardens.
1897. **BROWN, RICHARD, C.A.**, 22 Chester Street.
1884. **BROWNE, Right Rev. G. F., D.D.**, The Palace, Redland Green, Bristol.
1882. **BROWN, GEORGE WASHINGTON**, R.S.A., Architect, 8 Albany Place.
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1882. **BRUCE, JAMES, W.S.**, 59 Great King Street.
1893. **BRUCE, JOHN**, Inverallan, Helensburgh.
1898. ***BRUCE, JOHN**, of Sumburgh, Shetland.
1880. **BRUCE, Rev. WILLIAM, R.D.**, Dunmalis, Cullom.
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1902. **BRYCE, THOMAS H., M.A., M.D.**, 2 Granby Terrace, Glasgow.
1859. **BRYCE, WILLIAM MOIR**, 11 Blackford Road.
1894. **BRYDALL, ROBERT**, St George's Art School, 5 Newton Terrace, Charing Cross, Glasgow.
1890. **BRYAN, ALEXANDER, LL.D.**, Secretary, Scottish Meteorological Society, 42 Harlot Row.
1899. ***BUCHAN, WILLIAM**, Town Clerk of Peebles.
1885. ***BUCHANAN, THOMAS RYBURN, M.A., M.P.**, 12 South Street, Park Lane, London, W.
1857. ***BURGESS, PETER**, Craven Estates Office, Coventry.
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1900. CRAS, JOHN, 11 Brunswick Street.
1890. *CRAS, JOHN, Kirkton, Inverness.
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1893. CUNNINGTON, B. HOWARD, Devizes.
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1899. *CUNLIE, JAMES, jun., Priorwood, Melrose.—*Librarian*.
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1884. CURRIE, WALTER THOMSON, of Trynshaw, Cupar-Fife.
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1893. DALRYMPLE, SIR CHARLES, Bart., M.P., Newhailes, Mid-Lothian.
1883. DALRYMPLE, HON. HEW HAMILTON, Lochinch, Wigtownshire.
1880. DALRYMPLE, J. D. G., Methlewood, Stirling.
1872. *DAVIDSON, HUGH, Procurator-Fiscal, Braidale, Lanark.
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1903. DEAN, A. ORR, Advocate, 7 Forbes Street.
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Leith.
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tary.*
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Pitlochry.
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Road.
1887. DIXON, REV. JAMES, D.D., The Manor,
Glenrothes.
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Bank, Nairn.
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of the University of St Andrews.
1891. DONALDSON, ROBERT, M.A., Head-
master, Lachend Road Public School,
24 Duddingston Park, Portobello.
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wood Park, Kelso.
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ing Master, Art Academy.
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1874. DOWELL, ALEXANDER, 13 Palmerston
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1895. DOWSE, LIEUT.-COL. KENNETH MAC-
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Stirling.
1896. DRUMMOND, ROBERT, C.E., 2 Lyles-
land Terrace, Paisley.
1875. DRUMMOND, WILLIAM, 4 Leamouth
Terrace.
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STUART ELPHINSTON GRANT,
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1875. DUNS, REV. JOHN, D.D., 5 Greenhill
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Andrews.
1892. *EDWARDS, JOHN, 4 Great Western
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1885. *ELDER, WILLIAM NICHOL, M.D., 6
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Dunfermline.
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Villa, Elmgrove, Southsea.
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lathun, Linlathun House, Braughly
Ferry.
1895. EVANS, CHARLES E. J., Lathom Lodge,
Loughborough Park, S.W.
1890. *FAULDS, A. WILSON, Knockbuckle
Houses, Bath.
1890. FERGUSON, PROF. JOHN, LL.D., Uni-
versity, Glasgow.

1890. FRERSON, Rev. JOHN, B.D., Manse of Aberlodge, Perthshire.
1892. FRERSON, JOHN, Writer, Dum.
1872. *FRERSON, WILLIAM, LL.D., of Kinmardy, Mithlaw, Aberdeenshire.
1875. FRERSON, Sir JAMES K., Bart. of Spittalburgh, West Linton.
1893. *FINDLAY, JAMES LESLIE, Architect, 14 Castle Gardens.
1892. *FINDLAY, JOHN R., 27, Drumshough Gardens.
1880. FINLAY, JOHN HOPE, W.S., 19 Glencairn Crescent.
1885. FLEMING, D. HAY, LL.D., 16 Grayfriars Garden, St Andrews.
1888. FLEMING, JAMES, Jun., Kilnory, Skelmorlie, Ayrshire.
1895. FLEMING, JAMES STARK, Duncaton, Whiteincham Drive, Glasgow.
1893. *FLEMING, Rev. JAMES, M.A., Minister of Kelms.
1875. *FOOTE, ALEXANDER, 111 Warwick Road, Earl's Court, London.
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1890. FORRESTER, HENRY, Woodfield, Colinton.
1882. FOX, CHARLES HENRY, M.D., 35 Heriot Row.
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1886. FRISER, JAMES L., Castle Tolmie, Inverness.
1896. FULLERTON, JOHN, 1 Garthland Place, Paisley.
1890. GARDEN, FARQUHARSON T., 4 Robb's Terrace, Aberdeen.
1891. *GARSON, WILLIAM, W.S., 60 Palmerston Place.
1891. *GASTIN, JOHN RINTON, D.L., M.A., Braganstown, Castledellingham, Co. Louth, Ireland.
1888. GATHORPE, HARRY, Prospect Road, Barrow-in-Furness.
1888. GEMIE, Rev. FRANCIS, 20 Lynedoch Place.
1887. GEDDES, GEORGE HUTTON, 8 Douglas Crescent.
1895. GIBB, ALEXANDER, 58 Ashley Terrace.
1877. GIBB, JOHN S., 8 Colston Crescent.
1897. GIBSON, Rev. JOHN MACKENZIE, M.A., 22 Regent Terrace.
1903. GIBSON, WILLIAM, M.A., 9 Denby Street.
1896. GILLIES, PATRICK HUNTER, M.D., Ballachurn, Ballycar, Glen.
1903. GILKETH, JAMES DAVID, M.A., M.R., C.M., Millgate, Arbroath.
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1885. GLEN, ROBERT, 32 Dalldin Street.
1893. GOOD, GEORGE, Beasfoot, Liberton.
1898. GORDON, ANCHORD A., C.A., 1 Castle Gardens.
1901. GORDON, The Hon. J. E., M.P., 63 Prince's Gate, London.
1884. GORDON, JAMES, W.S., 8 East Castle Road, Merchiston.
1889. GORDON, WILLIAM, of Tartie, 60 South Street, St Andrews.
1883. GORDON-GILCHRIST, Lt. Col. ROBERT, C.B., D.S.O., of Craigmillar, The Inch, Liberton.
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1892. GRAHAM, ROBERT C., Skipness, Argyll.
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1894. GRAY-BUCHANAN, A. W., Parkhill, Polmont.
1891. GREEN, CHARLES E., The Holmes, Gordon Terrace.
1903. GREENWOOD, WILLIAM DE R., Barrister-at-Law, Croylands, Spring Grove, Isleworth, Middlesex.

1887. GRIBB, ANDREW, C.E., 3 Dunthorne Terrace, Broughty Ferry.
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1901. *HAMILTON OF DALZELL, The Right Hon. Lord, Dalzell, Motherwell.
1888. HAMPTON, Rev. DAVID MACGARDY, Culross.
1897. HARRIS, DAVID F., M.D., Lecturer in Physiology, University of St Andrews, Kinloch Cottage, St Andrews.
1903. HARRIS, WALTER B., Tangier, Morocco.
1897. HARRISON, JOHN, Rockyville, Napier Road.
1896. HART, GEORGE, Procurator-Fiscal of Renfrewshire at Paisley.
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1874. HAY, J. T., Blackhall Castle, Banchory.
1865. *HAY, ROBERT J. A., Florence.
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1885. HETTON, ANDREW GRANGER, Architect, Perth.
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1896. *HENDERSON, JAMES STEWART, 1 Pond Street, Hampstead, London, N.W.
1886. HENRY, DAVID, Architect, Estherville, Hapburn Gardens, St Andrews.
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1897. HEWAT, Rev. KIRKWOOD, M.A., U.F.C., Manse, Prestwick.
1887. HEWSON, Rev. J. KING, M.A., D.D., The Manse, Rothsay.
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- 1871.*HUTCHESON, JOHN, R.S.A., 19 Manor Place.
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- 1871.*JAMESON, JAMES AULDJO, W.S., 14 Buckingham Terrace.
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- 1870.*KEITH, JOHN S., LL.D., Secretary, Royal Geographical Society, Glenferon House, Comyns Gardens, Hampstead, London.
- 1880.*KENNEDY, JOHN, M.A., 25 Abingdon Street, Westminster.
- 1888.*KERRISON, PHILIP M. C., Advocate, Cloughburn, Ramsey, Isle of Man.
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- 1900.*KINTON, The Right Hon. The Earl of, G.C.M.G., LL.D., Keith Hall, Inverurie.
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- 1901.*LAMONT, NORMAN, yr. of Knockdow, Toward, Argyleshire.

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- 1892.*LANG, JAMES, 9 Crown Gardens, Downhill, Glasgow.
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- 1884.*LESDON, JAMES, Eden Bank, Dumfries.
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- 1873.*LEWIS, Rev. THOMAS M., D.D., Professor of Divinity, U.F. Church College, Glasgow.
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- 1890.*MACDONALD, JOHN MATHEWS, 95 Harley Street, London, W.
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- 1879.*ROBERTSON, W. W., Architect, H.M. Board of Works, Parliament Square.
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- 1880.*ROBSON, WILLIAM, S.S.C., Marchholm, Giffeland Road.
- 1871.*ROLLO, The Right Hon. Lord, Dunern House, Dunning.
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1875. STARKER, JAMES G.H., M.A., Advocate, Troqueur Holm, Dumfries.
1885. STEEDMAN, THOMAS, Clydesdale Bank, Kinross.
1891. STEELE, WILLIAM, Inland, Revenue-Office, Kelso.
1901. STEUART, A. FRANCIS, Advocate, 79 Great King Street.
1902. STEUART, JAMES, W.S., 10 Rothesay Terrace.
1895. STEVENSON, JOHN HORNE, M.A., Advocate, 9 Oxford Terrace.
- 1867.*STEVENSON, JOHN J., Architect, 4 Porchester Gardens, London, W.
1887. STEVENSON, Rev. W., M.A., The Manor, Achtertool, Kirkcaldy.
1879. STEWART, CHARLES POYNTEZ, Cheshfield Park, Stevenage.
1901. STEWART, Sir MARK J. M'TAGGART, Bart., M.P., Ardwell, Stranraer.
1901. STEWART, MICHAEL HUGH SHAW, M.P., of Carnock, Larbert.
- 1871.*STEWART, Maj.-Gen. J. H. M. SHAW, R.E., 7 Inverness Terrace, London, W.
1885. STEWART, ROBERT KING, Mundatoun Castle, Newmains, Lanarkshire.

1894. STEWART, WALTER, 3 Queensferry Gardens.
1908. STERLING-COOKSON, C. L., of Renton House, Berwickshire.
1882. STORY, Rev. R. HERBERT, D.D., LL.D., Principal of the University, Glasgow.
1897. STRACHAN, Rev. JAMES M., B.D., Kilspindie Manse, Errol.
1903. *STRATHFONA AND MOUNT ROYAL, The Right Hon. Lord, G.C.M.G., Inversee, Argyllshire.
1899. STRATHERN, ROBERT, W.S., 13 Eglinton Crescent.
1867. *STRATHMORE, The Right Hon. The Earl of, Glamis Castle, Forfarshire.
1894. STUART, ALEX., 11 Coates Gardens.
1895. STUART-GRAY, The Hon. MORTON GRAY, 2 Belford Park.
1882. STURROCK, PETER, London Road, Kilmarnock.
1897. SULLY, PHILIP, Bellbrae, Onpar-Fife.
1901. SUTHERLAND, His Grace The Duke of, K.G., Dunrobin Castle, Golepie.
1899. *SUTHERLAND, ROBERT M., Solagirth, Dollar.
1887. SUTHERLAND, J. B., S.S.C., 10 Windsor Street.
1897. SUTTON, GEORGE C., of Lathlan, In Bank, Arkleston Road, Paisley.
1884. SWALLOW, Rev. H. J., M.A., Hawthorne Rectory, Sunderland.
1900. SWINTON, Capt. GEORGE S. C., 36 Port Street, London.
1899. SYLVESTER, Rev. WALTER, St Charles College, St Charles's Square, London, W.
1903. TAIT, JOHN HUNTER, Advocate, 47 Moray Place.
1892. *TAYLOR, J. PRINGLE, W.S., 19 Young Street.
1900. TAYLOR, W. LAWRENCE, Broad Street, Peterhead.
1901. TAYLOR, Rev. WILLIAM, M.A., Minister of Melville Parish, Montrose.
1884. TEMPLE, Rev. WILLIAM, M.A., D.D., 7 Albert Terrace, Aberdeen.
1870. *TENNANT, Sir CHARLES, Bart., The Glen, Innerleithen.
1896. THIN, JAMES, 22 Lander Road.
1902. THIN, ROBERT, M.A., M.B., C.M., 38 Albany Street.
1900. THOMSON, ANDREW, Glendinning Terrace, Galashiels.
1894. THOMSON, EDWARD DOUGLAS, Chief Clerk, General Post Office, 7 Walker Street.
1896. THOMSON, J. MAITLAND, LL.D., Advocate, Curator of the Historical Department H.M. General Register House, 3 Grosvenor Gardens.
1867. *THOMSON, LOCKHART, S.S.C., 114 George Street.
1898. THORNBURN, MICHAEL GRIEVE, of Glenormiston, Innerleithen.
1891. TILLENBROOK, Rev. W. J., M.A., Strath-Tay Parsonage, Grantully, Ballinliskig.
1896. TOMLINSON, CHARLES, South Cottage, Healey, Rochdale.
1898. TOUGH, WILLIAM, M.A., 94 Polwarth Gardens.
1877. TURE, Sir JOHN BATTY, M.D., LL.D., M.P., 29 Charlotte Square.
1899. TULLOCH, Major-Gen. Sir ALEXANDER BRUCE, K.C.B., C.M.G., Llanwyak, Crickhowell, S. Wales.
1887. *TURNBULL, WILLIAM J., 16 Grange Terrace.
1901. TURNHULL, W. S., Aikenshaw, Rosemuth.
1890. TURNER, FREDERICK J., Mansfield Woodhouse, Mansfield, Notts.
1863. *TURNER, Sir WILLIAM, K.C.B., M.B., LL.D., D.C.L., Principal of the University of Edinburgh, 6 Eton Terrace.
1881. TWEEDDALE, The Most Honourable The Marquess of, K.T., Yester House, Haddington.
1901. *TWEEDMOUTH, The Right Hon. Lord, Hutton Castle, Berwick-on-Tweed.
1878. *URQUHART, JAMES, H.M. Register House.
1882. *USHER, Rev. W. NEVILLE, Wellingore Vicarage, Lincoln.

1896. VALLANCE, DAVID J., Curator, Museum of Science and Art, Chambers Street.
1882. *VEITCH, GEORGE SATON, Bank of Scotland, Paisley.
1884. WALKER, R. C., S.S.C., Wingate Place, Newport, Fife.
1879. WALLACE, THOMAS, Rector of High School, Inverness.
1870. WATKINSON, GEORGE, 10 Clarendon Crescent.
1891. *WATSON, REV. ALEXANDER DUFF, B.D., U.F.C. Manse, Duntreabush, Stonehaven.
1895. *WATSON, ROBERT F., Briery Yards, Hawick.
1893. WATSON, WILLIAM, Dep. Surgeon-General, The Lea, Corstorphine.
1887. WATT, JAMES CRAIG, Advocate, 46 Heriot Row.
1879. WEDDERBURN, J. R. M., M.A., W.S., 3 Glencairn Crescent.
1877. WELSH, JOHN, Meredun, Liberton.
1872. *WENYSS AND MARCH, The Right Hon. The Earl of, M.D., Gosford, Longniddry.
1884. WHITE, CECIL, 23 Drummond Place.
1889. *WHITE, COL. THOMAS PULKINGTON, R.F., 3 Hesketh Crescent, Torquay.
1908. WHITELAW, ALEXANDER, of Gartshore, Kirkintilloch.
1902. WHITELAW, CHARLES EDWARD, Architect, 165 Bath Street, Glasgow.
1885. WHITELAW, DAVID, Eskhill, Inveresk.
1894. WILLIAMS, FREDERICK BESSANT, 2 Essex Grove, Upper Norwood, London, S.E.
1895. WILLIAMS, REV. GEORGE, Minister of Norriston U.F. Church, Thornhill, Stirling.
1897. WILLIAMS, HARRY M., Tilehurst, Priory Park, Kew, Surrey.
1884. WILLIAMSON, REV. ALEXANDER, D.D., 39 Laurier Road.
1898. WILSON, REV. JOHN, M.A., Minister of Methven.
1888. WILSON, REV. CANON W. HAY, The Parsonage, Dingwall.
1892. *WORDIE, JOHN, 42 Montgomery Drive, Glasgow.
1903. WHEAT, REV. FREDERICK G., Chaplain to the Forces, Royal Victoria Hospital, Netley.
1889. YOUNG, HUGH W., of Burghhead, Tortolia, Naïre.
1891. YOUNG, WILLIAM LAURENCE, Belvidere, Auchterarder.

LIST OF THE CORRESPONDING MEMBERS

OF THE

SOCIETY OF ANTIQUARIES OF SCOTLAND.

(*Elected since 1851.*)

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|--|---|
| 1874.*ANDERSON, JOHN, M.D., Curator of the Imperial Museum, Calcutta. | 1851. FRENCH, GILBERT J., Bolton. |
| 1860. ANDERSON, JOSEPH, Wick. | 1877. GALLOWAY, WILLIAM, Architect. |
| 1879. ARNOLD, THOMAS, Architect, London. | 1864. GAUCHARD, M. LOUIS, Provost, Keeper of the Belgian Archives. |
| 1863.*BAINSWELL, Rev. EDWARD L., Ruthin, Wales. | 1873. GEEKE, A. G., D.D., Bathurst, New South Wales. |
| 1865. BELL, ALLAN, of Abbot's Haugh. | 1864. GERBERÉ, M. J. R., Keeper of the Library, Bordeaux. |
| 1853.†BRUCE, Rev. JOHN COLLINGWOOD, M.A. | 1875. GILLESTIE, Rev. JAMES E., Kirkcubrecht. |
| 1900. BUCHANAN, MUNGO, Falkirk. | 1865.†GREENWELL, Rev. Canon W., Durham. |
| 1873.†BUCKE, SOPHUS, Prof. of Icelandic, Royal University of Christiania. | 1868. GRIERSON, THOMAS B., Surgeon Thornhill, Dumfriesshire. |
| 1870. CARMICHAEL, ALEXANDER A., Lochmaddy, South Uist. | 1864. HAGEMANS, GUSTAVE, Brussels. |
| 1875. CLAUDEAU, M. HENRI DE, Commissioner for Public Monuments, Paris. | 1859. HAINES, Captain EDWARD, F.R.C.S. |
| 1868. COOK, EDWARD WILLIAM, Esq., R.A., London. | 1870.*HAY, GEORGE, Arbroath. |
| 1857. CURRY, EUGENE, M.R.I.A., Dublin. | 1867. HERIST, ARCHIVARY, Copenhagen. |
| 1874. DALGARNO, JAMES, Slains, Aberdeenshire. | 1865.*IRVING, JAMES T., Architect. |
| 1889. DELORME, M. EDMANTEL, Secretary of the Chamber of Commerce, Toulon. | 1855. JEPSON, ANDREW, Brechin. |
| 1804.*DICKSON, ROBERT, LL.B.S.E., Carnoustie. | 1860. KELLER, Dr FERDINAND, Zurich. |
| 1901. ELLES, F. C., Munro, Stouhagen. | 1859. KILCHING, G. R., Stockholm. |
| 1851. FENWICK, JOHN, Newcastle. | 1877. LAING, HENRY, Seal Engraver. |
| 1878. FOSDICK, Col. the Hon. J. B., LL.D., D.C.L., Kittanning, Pennsylvania. | 1889. LANDSCROFT, Rev. DAVID, LL.D., Minister of Henderson U.F. Church, Kilmarnock. |
| | 1859. LAPPENBERG, Dr J. M., Hamburg. |
| | 1877. LAURENSEN, ARTHUR, Lerwick. |
| | 1867. LAWSON, Rev. ALEXANDER, Orkney, Piffeshire. |

* Those marked with an asterisk subsequently became Fellows.

† These were subsequently made Honorary Members.

1861. LE MEY, M., Archiciste du Département, Quimper, Finistère.
1864. LORIMER, Prof. PETER, D.D., London.
1877. LYON, D. MURRAY, Ayr.
- 1890.*M'LEAN, Rev. JOHN, Grantully, Aberfeldy.
1897. MACNAUGHTON, Dr ALLAN, Tynmull.
1879. MAILLARD, M. L'Abbé, Thorigné, Mayenne, France.
1867. MAPLETON, Rev. R. J., M.A., Kilmartin, Argyleshire.
1876. MATHEWSON, ALLAN, Dundee.
1872. MICHIE, Rev. J. G., A.M., Migvie, Aberdeenshire.
1865. MILLER, DAVID, Arbroath.
- 1861.*MITCHELL, ARTHUR, M.D., Deputy-Commissioner in Lunacy.
1871. MORRISON, Rev. JAMES, Urquhart, Elginshire.
1885. MOESING, CARLOS ALBERTO, C.F., Rio de Janeiro.
1865. NICHOLS, JOHN GOUNN, London.
1865. NICHOLSON, JAMES, Kilmadbright.
1903. RITCHIE, JAMES, The Schoolhouse, Port Elphinstone, Inverurie.
1871. RUSSELL, Rev. JAMES, Walls, Shetland.
- 1873.†RYON, OLAV, Prof. of Icelandic, Royal University of Christiania.
1873. SÄVE, Dr CARL, Prof. of Icelandic in the University of Upsala.
1862. SCOTT, ALLAN N., Lieut., Madras Artillery.
1872. SHERRER, ROBERT INNES, Thrumster, Caithness.
1853. SMILES, JOHN FINCH, M.D.
1892. SUTHERLAND, Dr A., Invergordon.
1860. TAIT, GEORGE, Alnwick.
1885. TEMPLE, CHARLES S., Cloister Seat, Uduy, Aberdeenshire.
1874. THOMSON, ROBERT, Shuna, Kewdale, Argyll.
- 1868.*THOMAS, WILLIAM, M.D., St Andrews.
1863. TROTTON, M. FREDERIC, Lausanne.
1857. WALKER, Rev. HENRY, Urquhart, Elgin.
1888. WATT, W. G. T., of Breckness, Orkney.
1864. WATTS, THOMAS, British Museum, London.
1865. WEALE, W. H. JAMES, of Bruges.
1857. WILDE, W. R., Royal Irish Academy, Dublin.
1872. WILSON, Rev. GEORGE, F.C. Mann, Glenluce, Wigtownshire.
1858. WRIGHT, Rev. ALBAN H., Prof., Codrington College, Barbadoes.

LIST OF HONORARY MEMBERS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND,
NOVEMBER 30, 1902.

[According to the Laws, the number is limited to TWENTY-FIVE.]

1874.

THE RIGHT HON. LORD AVEBURY, LL.D., D.C.L., High Elms, Farnborough,
Kent.

SIR JOHN EVANS, K.C.B., D.C.L., LL.D., &c., Nashmills, Hemel-Hemp-
stead.

1879.

REV. Canon WILLIAM GREENWELL, M.A., D.C.L., Durham.

1885.

Dr HANS HILDEBRAND, Royal Antiquary of Sweden.

& Dr ERNEST CHANTRE, The Museum, Lyons.

1892.

WHITLEY STOKES, LL.D., C.S.I., 15 Grenville Place, Cornwall Gardens,
London.

1892.

Professor LUIGI PIRORELLI, Director of the Royal Archaeological Museum,
Rome.

Dr HENRY C. LEA, 2000 Walnut Street, Philadelphia.

1897.

W. M. FLINDERS PETRIE, D.C.L., LL.D., Edwards Professor of Egyptology
in University College, London.

- 10 JOHN RHYE, M.A., LL.D., Professor of Celtic, and Principal of Jesus
College, Oxford.

Sir FRANCIS TRESS BARRY, Bart., M.P., St Leonard's Hill, Windsor, and
Keiss Castle, Keiss, Caithness.

Dr SOPHUS MULLER, Secretary of the Royal Society of Northern Anti-
quaries, and Director of the National Museum, Copenhagen.

Dr OSCAR MONTELIUS, Professor at the National Museum, Stockholm.

1900.

EMILE CARTAILHAC, Toulouse.

- 15 F. HAVERFIELD, M.A., Christ Church, Oxford.

J. ROMILLY ALLEN, 29 Great Ormond Street, London.

Rev. S. BARING GOULD, Lew Trenchard, North Devon.

ROBERT BURNARD, 3 Hillsborough, Plymouth.

CHARLES W. DYMOND, The Castle, Sawrey S.O., Lancashire.

LIST OF THE LADY ASSOCIATES
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND.

NOVEMBER 30, 1902.

[According to the Laws, the number is limited to TWENTY-FIVE.]

1873.

The Baroness BURDETT COUTTS.

1874.

The Dowager Lady DUNBAR of Northfield, Duffus House, Elgin.

1883.

Mrs RAMSAY, Kildalton, Islay.

1888.

The Right Hon. The COUNTESS OF SELKIRK.

1890.

3 Mrs P. H. CHALMERS of Avochie.

1894.

Miss EMMA SWANN, Walton Manor, Oxford.

1895.

Miss H. J. M. RUSSELL of Ashiesteel,

Miss AMY FRANCES YULE of Tarradale, Ross-shire.

1900.

Miss M. A. MURRAY, 1 Woodfield Road, Ealing, W.

10 Mrs E. S. ARMITAGE, Westholm, Rawdon, Leeds.

LIST OF SOCIETIES, INSTITUTIONS, &c., EXCHANGING PUBLICATIONS.

- The Society of Antiquaries of London.
- The Royal Society of Antiquaries of Ireland.
- The Cambrian Archaeological Association.
- The Royal Archaeological Institute of Great Britain and Ireland.
- The British Archaeological Association.
- The Society of Architects, London.
- The Architectural, Archaeological, and Historic Society of Chester.
- The Derbyshire Archaeological and Natural History Association.
- The Essex Archaeological Society.
- The Kent Archaeological Society.
- The Historic Society of Lancashire and Cheshire, Liverpool.
- The Chester Archaeological and Historic Society, Chester.
- The Architectural Society of the Counties of Lincoln and Nottingham and Associated Societies.
- The Society of Antiquaries of Newcastle-upon-Tyne.
- The Somersetshire Archaeological and Natural History Society.
- The Surrey Archaeological Society.
- The Sussex Archaeological Society.
- The Geological Society of Edinburgh.
- The Berwickshire Naturalists' Club.
- The Anthropological Institute, London.
- The Wiltshire Archaeological Society.
- The Royal Irish Academy.
- The Bristol and Gloucestershire Archaeological Society.
- The Numismatic Society, London.
- The Shropshire Archaeological Society.

The Dumfriesshire Natural History and Antiquarian Society.
 The Edinburgh Architectural Association.
 The New Spalding Club, Aberdeen.
 The Cambridge Antiquarian Society.
 The Royal Historical Society, London.
 The Literary and Scientific Society, The Museum, Elgin.
 The Yorkshire Archaeological Society, Leeds.

FOREIGN SOCIETIES, &c.

The Royal Society of Northern Antiquaries, Copenhagen.
 La Société Nationale des Antiquaires de France, Paris.
 Antiquarische Gesellschaft, Zurich.
 Verein von Alterthumsfreunde im Rheinlande, Bonn.
 The Smithsonian Institution, Washington, U.S.A.
 The Canadian Institute, Toronto.
 The Museum, Bergen.
 Foreningen til Norske Fortidsmindesmerkers Bevaring, Christiania.
 The Royal Academy of History and Antiquities, Stockholm.
 The Bureau of Ethnology, Washington.
 The Peabody Museum, Cambridge, Mass., U.S.A.
 Gesellschaft für Nützliche Forschungen, Trier.
 Physio-Oekonomische Gesellschaft, Königsberg.
 Berliner Gesellschaft für Anthropologie, Berlin.
 Anthropologische Gesellschaft, Wien.
 Department of Mines, Sydney.
 Société d'Archéologie de Bruxelles, Belgium.
 Société des Bollandists, Bruxelles.
 L'École d'Anthropologie, Paris.
 Société Archéologique de Namur, Namur.
 Reale Accademia dei Lincei, Rome.
 Der Alterthumsgesellschaft Preussia, Königsberg.
 Centralblatt für Anthropologie, Stettin.
 Société Archéologique du Midi de la France, Toulouse.
 L'Académie des Inscriptions et Belles Lettres, Paris.
 La Commissione Archeologica Comunale di Roma.

La Société D'Anthropologie de Paris.
 La Musée Guimet, Paris.
 La Société Archéologique du Département de Constantine, Algeria.
 National Museum of Croatia, Zagreb, Austria-Hungary.
 The Bosnisch-Herzegovinisches Landes-Museum, Sarajevo, Bosnia.
 Bureau des Schweizerisches Landes-Museum, Zurich.
 The Geological Survey Office, Pietermaritzburg, Natal.
 Nordiska Musset, Stockholm.
 Museum of Northern Antiquities, The University, Christiania.
 The Royal Bohemian Museum, Prague, Austria.
 Società Romana di Antropologia, Rome.
 La Société d'Histoire et d'Archéologie de Gand, Belgium.
 Kongelige Norske Videnskabers Selskab, Throudhelm, Norway.
 Historische und Antiquarische Gesellschaft in Basel, Germany.
 La Société Finlandaise d'Archéologie, Helsingfors, Finland.
 La Société d'Anthropologie de Lyon, France.
 La Société des Antiquaires de l'Ouest, Poitiers, France.
 Der Historische Verein für Niedersachsen, Hanover, Germany.

FROM THE PUBLISHERS.

The Antiquary (Elliot Stock), London.
The Reliquary and Illustrated Archaeologist (Bemrose & Sons), London.
Ulster Journal of Archaeology (M'Caw, Stevenson & Orr), Belfast.
Portugalia, Oporto, Portugal.

26587

PROCEEDINGS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND.

HUNDRED AND TWENTY-THIRD SESSION, 1902-1903.

ANNIVERSARY MEETING, 1st December 1902.

THE RIGHT HON. SIR HERBERT MAXWELL, BART., LL.D., M.P.,
President, in the Chair.

Mr James R. Reid and Mr Thomas M'Kie were appointed Scrutineers of the Ballot for the election of Office-Bearers and Councillors.

The Ballot having been concluded, the Scrutineers found and declared the List of the Council for the ensuing year to be as follows:—

President.

THE RIGHT HON. SIR HERBERT E. MAXWELL, BART., LL.D., M.P.

Vice-Presidents.

DAVID MURRAY, LL.D.

THE RIGHT HON. THE EARL OF SOUTHESK, K.T., LL.D.

ROBERT MUNRO, M.A., M.D., LL.D.

Councillors.

Sir GEORGE REID, LL.D., R.S.A.,	} <i>Representing the Board of Trustees.</i>	The Hon. HEW HAMILTON DAL- RYMPLE.
Sir ARTHUR MITCHELL, K.C.B., M.D., LL.D.,		ROBERT BRUCE ARMSTRONG.
Sir KENNETH MACKENZIE, Bart., <i>Representing the Treasury.</i>		THOMAS ROSS.
Lieut.-Col. A. B. M'HAIRDY, C.B.		THOMAS H. BRYCE, M.D.
JAMES MACDONALD, W.S.		WILLIAM GARSON, W.S.
		JOHN M. HOWDEN.
		Prof. P. HUME BROWN, M.A., LL.D.

Secretaries.

DAVID CHRISTISON, M.D.		The Hon. JOHN ABERCROMBY.
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For Foreign Correspondence.

THOMAS GRAVES LAW, LL.D.		WILLIAM K. DICKSON.
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Treasurer.

JOHN NOTMAN, Actuary, 25 St Andrew Square.

Curators of the Museum.

Professor DUNS, D.D.		ALEXANDER J. S. BROOK.
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Curator of Coins.

GEORGE MACDONALD, M.A.

Librarian.

JAMES CURLE, Junr.

A Ballot having been taken, the following were duly elected
Fellows:—

HENRY BORTHWICK, Borthwick Castle, Midlothian.
J. G. HAWESLEY BEDFORD, Ravenscliffe, Rammoor, Sheffield.
EDWARD A. CHISHOLM, 43 Comely Bank Road, Edinburgh.
WILLIAM GIBSON, M.A., 2 Danube Street, Edinburgh.
JAMES DAVIS GILBUTH, M.A., M.B., C.M., Millgate, Arbroath.
GEORGE G. MACKAY, Ardini, New Brighton, Cheshire.

Rev. JOHN M'LEAS, Minister of Grantully, Perthshire.

JAMES MITCHELL, 222 Darnley Street, Pollokshields, Glasgow.

Rev. JOHN M. ROBERTSON, D.D., Minister of St Ninians, Stirling.

A. H. SAYCE, M.A., LL.D., D.D., Professor of Assyriology, Oxford, 8
Chalmers Crescent, Edinburgh.

Rev. WILLIAM A. STARK, Minister of Kirkpatrick-Durham, Dalbeattie.

Rev. FREDERICK GEORGE WRIGHT, Chaplain to the Forces, Royal
Victoria Hospital, Netley.

The meeting resolved to record their sense of the loss the Society
had sustained in the deaths of the following Members deceased since
last Annual Meeting:—

Honorary Member.

	<i>Entered</i>
Professor RUDOLF VIRCHOW, LL.D., Berlin,	1881

Fellows.

JAMES LENNOX CAMPBELL, Achacottach, Dalhally,	1890
JOHN CHRISTIE of Cowden and Glenfarg,	1881
JOHN HENRY GILCHRIST CLARK of Speddoch, Dumfriess,	1901
H. SYER CUMING, 63 Kennington Park Road, Surrey,	1867
Rev. JOHN DUNCAN, D.D., Minister of Abdie,	1874
The Most Rev. ARCHBISHOP EYRE, Glasgow,	1892
ALEX. A. FERGUSON, 38 M'Alpine Street, Glasgow,	1883
MAJOR RANDLE JACKSON of Swordale,	1883
Rev. JOHN P. JAMES, Ilkley, Leeds,	1867
Rev. WILLIAM LOCKHART, D.D., Minister of Colinton,	1883
Dr W. IVERSON MACADAM, Shioch, Lady Road,	1887
JAMES MAINLAND MACRATH, Lynnhfield, Kirkwall,	1877
DAVID MACGIBBON, Architect, 65 Frederick Street,	1862
ALEX. MACPHERSON, Provost of Kingussie,	1890
DAVID MARSHALL, Lochleven Place, Kintross,	1872
T. L. KINGSTON OLIPHANT of Oak, Auchterarder,	1901
Sir JOSEPH NOEL PATON, R.S.A., LL.D., 33 George Square,	1859
ALEX. GEORGE BRID, Solicitor, Auchterarder,	1882
THOMAS H. SMITH, Corrie Lodge, Inverness,	1890
Lieut.-Col. GAVIN MURRY STERLE, 21 Coates Gardens,	1874
JOHN TENNANT, High Street, Ecclefechan,	1897

Lieut.-Col. F. A. V. THURBURN, Kirkfell, Upper Norwood,	1893
JAMES A. WENLEY, 5 Drumheugh Gardens,	1880
Sir JOHN WOODBURN, K.C.S.I., Lieut. Governor of Bengal,	1875
ROBERT YOUSUER, 15 Carlton Terrace,	1878

Dr Christison, Secretary, read the following Report on the progress and work of the Society in the past year:—

The Roll of Membership.—In the Secretaries' Reports at our Annual Meetings of the last three years, upon the progress and work of the Society, much stress has been laid upon the importance of keeping up our numbers, and it has occurred to me that on the present occasion it might be of some interest to the Fellows to know what is our average strength, how many recruits are required annually to maintain it, and whether we are obtaining them in sufficient numbers. For this purpose our Treasurer has kindly furnished me with a Table of the figures for the last ten years.

From this Table it appears that our annual strength during that period has varied between 685 and 740, and that our present strength stands at 706.

That our loss from Deaths has varied between 18 and 31, and has averaged 24·6.

That our loss from lapses in payment of the annual subscriptions, and from Resignations, varied between 4 and 21, and averaged 11·4.

That from all causes our losses varied between 30 and 44, and averaged 36·0.

The result therefore shows that we require an annual supply of 36 new Fellows to maintain the average strength of the last ten years.

As to our gains, it appears that they have varied between 19 and 58, and have averaged 32·8; but as the large accession to our numbers of 58 resulted from a special appeal by our President in 1901 to the Scottish nobility, which brought in 17 recruits, and from the admission of Ladies for the first time, which accounted for 5 more, what may be called the ordinary influx in that year is reduced to 38; therefore 40, the number in 1893, may be taken as the fairest maximum, and the

annual ordinary fluctuation in the additions to the fellowship may be said to range from 19 to 40.

It thus comes out that the annual deficit of gains compared with losses has been 3·2, and, deducting the abnormal gain of 22 in 1901, the deficit rises to 5·6.

Taking the actual figures for two periods of five years there is an average gain in the first period of 32·2 and in the second of 33·4, but if we deduct the abnormal increase in 1901 the average in the latter period falls to 29·0.

On the whole, it appears that there has been a tendency to a falling off in our numbers, which seems the more remarkable, as our activity in promoting research in the field might have been expected to have produced an opposite result. Perhaps it may be accounted for by the competition resulting from the multiplication of Scientific Societies in Scotland in recent times, and it may be that we shall not be able to keep our numbers quite up to the present standard, but no serious diminution should take place, provided that our Fellows lose no opportunity of bringing in new recruits.

PUBLICATIONS.

I. *The Proceedings*.—The Volume for 1901–1902 is now on the table, in proof. It is of unusual size, containing no less than 775 pages, and it has a very large number of illustrations. The 23 papers may be classified as Prehistoric 16, Historic and Mediæval 3, Romano-British 1, Post-Reformation 1, Numismatic 1, Heraldic 1. The Prehistoric class, besides minor papers, all well deserving a place, contains three of unusual size and importance, by Sir Arthur Mitchell, Dr Thomas Bryce, and Mr F. R. Coles, to be noticed further on. The principal contribution in the second division is the exhaustive analysis of the origin of the Cavers ensign by Lord Southesk, and the solitary representative of the Post-Reformation period opens up a nearly new field of inquiry among the Churchyard Monuments of the Lowlands. Few years pass without the discovery of at least one hoard of coins, and

the volume records a large find near Stonehaven, from which, however, only four coins were deemed by our Curator worthy of a place in the National Collection. The single heddle paper is contributed by Mr Rae Macdonald, who describes the continuance of his interesting investigations among the tombstones and buildings of the north-eastern counties.

2. *The Early Christian Monuments of Scotland*.—This great work, perhaps the greatest ever undertaken by the Society, after eight years of constant effort, is now in type, and there is a good prospect of its publication within a few months, or at least before the end of the present session.

3. *The Prehistory of the Scottish Area—Fifty Years' Work of the Society*.—The address on this subject, undertaken by Sir Arthur Mitchell at the request of the Council, so clearly brought together the evidences that Scotland had a prehistory as well as a history of its own, and contained so valuable a historical and statistical account of the progress of the Society, that the Council thought it well worthy of a place among their publications, and copies are now offered to the Fellows at a merely nominal price.

The Gunning Fellowship was bestowed on Mr F. R. Coles, for the fourth successive season, to enable him to continue his examination of the Stone Circles of Aberdeenshire, and his Report for the past year deals with forty-eight sites, which are recognisable as being, or as having been, Circle-sites, besides twenty-two on which nothing but recordless monoliths now stand. With three exceptions not one of these Circle-sites and monoliths has been previously described or figured. The importance of Mr Coles' investigations is further shown in a rather melancholy way by the fact that, if the destruction of these remains goes on at the present rate, scarcely one will survive by the end of the century, and they will be known only by Mr Coles' records of them in the volumes of our Proceedings. It reflects little credit on the intelligence of too many of our lairds and tenants that a class of

monuments which, one would think, from their mysterious origin and extreme antiquity, should appeal for kindly treatment to the hardest of hearts and the least romantic of minds, should be threatened with almost total destruction. They are in the truest sense National Monuments, for they existed at least a thousand years before the most ancient families of the present 'owners' were heard of, but the nation seems powerless to claim them. Perhaps some of the lairds, on whose land the best examples stand, might be induced to place them under the Act for the Protection of Ancient Monuments. This seems to be the only hope of their preservation.

EXCAVATIONS.

Inchtuthil.—In continuance of our investigations of Roman sites in Scotland the Camp at *Inchtuthil* was undertaken last year. This is of special interest as being the furthest north site on which the discovery of Roman relics has been recorded. The area involved is so vast that anything like an exhaustive examination was quite out of the question, but with the zealous co-operation of the proprietor, Sir Alexander Muir Mackenzie, and under the skilled management of the Hon. John Abercromby and Mr Ross, with Mr Alexander Mackie more more filling the arduous post of Clerk of Works, *Inchtuthil* has probably been made to yield the most important of its secrets, and it was at least proved that the extensive works on the site were not those of a mere temporary camp, but were intended for a lasting occupation. No doubt much remains to be done, not only at *Inchtuthil*, but in its neighbourhood, particularly in regard to the supposed Roman Camp at Meikleour, before the full extent and nature of the Roman occupation at this important strategic position can be determined, but meanwhile we have been in a manner compelled to break ground in a quite different locality.

Cairns of Arran and Islay.—The Council were glad to be able to aid Dr Thomas Bryce in his investigation of these Cairns by giving him a grant from 'The Excavation Fund.' The invested capital of this

fund amounts to about £600, of which only the interest is available for grants. Small as the yield was when the fund stood in the name of Rhind only, limited as it still is with the addition of the Primrose and Cairnes legacies, the grants have been of signal service in aiding excavations of a less formidable kind than our Roman undertakings, and no better example could be given than in the present instance. Dr Bryce, by his skilfully planned and executed work, followed by his truly scientific deductions from the results, has accurately defined a new class of Cairns, separating it from the chambered Cairns with which the very few recorded examples, previously imperfectly understood, were conjoined: he has also contributed not a little to our knowledge of the burial customs of the Stone as distinguished from the Bronze Age, and of the anatomical characteristics of the inhabitants of Scotland during these periods. Finally, by presenting his Finds to the National Museum, Dr Bryce has enriched it to a degree, in money value alone, much exceeding that of the grant made to him.

Present and Future Excavations.—A renewed generous gift of £150 by Mr Abercromby, supplemented by a grant of £50 from our own Funds, enabled the Society last season to undertake the excavation of Castlecary, one of the Forts of the Antonine Wall, permission having been readily given by Lord Zetland, proprietor of the ground. After nine months of unremitting labour the work is now all but completed, and our thoughts have been turned towards the neighbouring Rough Castle, not only from its intrinsic importance, holding forth as it does a prospect of results not less valuable than those obtained in any of our previous undertakings, and more promising than what any of the remaining unexplored Roman sites are likely to yield, but because our Honorary Fellow, Mr Haverfield, has offered us a sum of £50, which has been supplemented by £10 from Mr George Macdonald, expressly for its investigation. These handsome donations, however, would not nearly cover the expense of an excavation which ought to be pre-eminently exhaustive, if done at all. The Council must, therefore, consider the means of raising further supplies. Hitherto the Society has borne

the main part of the expenditure incurred in the excavations of the last eight years, partly from income partly from capital, but the latter is now reduced to a point beyond which it might be imprudent to go.

In these straits I believe that an appeal for subscriptions would be favourably entertained, not only by those Fellows who have so liberally contributed in the past, but by many others according to their means. Nay, it may even be a question whether we should not go beyond our own borders, and as an earnest of what may be expected in that direction I have much satisfaction in announcing that two gentlemen, in no way connected with our Society, Mr Robert Hudson, Kirkintilloch, and Mr Lawrence Thomson, Glasgow, were so impressed with what they saw of our work at Castlecary as spontaneously to contribute £1, 1s. and £1 respectively in aid of the excavation of Castlecary and Rough Castle. I may also mention that from time to time I have had gratifying testimony from gentlemen engaged in similar work on the other side of the Border as to the success of our excavations, and much surprise has been expressed at the economy with which they have been conducted. This has certainly been mainly due to the enthusiastic and gratuitous services of the trained engineers, architects, and surveyors, Messrs J. H. Cunningham, James Barbour, Thomas Ross, and Mungo Buchanan, who have for eight years devoted so many leisure hours, and even so much valuable professional time, to the often difficult tasks of directing and planning the operations, and not less perhaps to the skill and steadfast endurance with which our Clerks of Works, Messrs Thomas Ely and Alexander Mackie, carried out the instructions given to them.

But, however desirable it may be to continue our Roman investigations, we should not forget that there are native remains, prehistoric and early historic, which have perhaps even a greater claim upon the regard of us Scots. In the prehistoric field our knowledge is, indeed, continually being added to, without our intervention, particularly through the accidental exposure of burial-cists, but far more complete and accurate results may be anticipated from the investigation of Cairns,

Stone Circles, etc., by our own experts. Of the early historic period—if we may so call the eight or nine centuries that succeeded the Roman occupation—we know, perhaps, even less than of prehistoric times. Here chance discoveries can do little or nothing for us, and the dense obscurity that enshrouds these dark ages can only be dispelled, if at all, by systematic excavations. The Hill Forts, which, as far as archaeological inquiry has hitherto gone, appear to belong to this age, offer themselves as the readiest means of increasing our knowledge of it. But do they really belong to it? If so, do they all belong to it? Is there really a class of intentionally vitrified forts, and, if so, what is their relation in point of date to the others? These are among the important questions that await solution by the spade. Be the results what they may, what more inspiring enterprise could be imagined than the excavation of that stupendous work, the White Caterthun! and many more of the ancient fortresses of our ancestors are hardly less interesting. In conclusion, it seems to me most desirable that if a fund for undertaking the larger kind of excavations be raised, it should be made available for ancient remains of every class, prehistoric, Roman, or historic, according as occasion may arise. If the funds suffice, and with a sufficient staff of skilled superintendence, there seems no reason why more than one large investigation should not be undertaken simultaneously.

The Museum.—Among the more important additions to the National Museum during last Session, the large collection of Scottish prehistoric implements, presented by the late Mr Gilchrist Clark of Speddoch, deserves special mention; also a valuable donation from Mr Robert Christison of Lammermoor, North Queensferry, of weapons and implements obtained directly by himself from the natives of the Dalkeith Tribe in his neighbourhood: lastly, an unusual number of sepulchral Urns. It might be expected that the supply of sepulchral Urns, of which we have such a splendid collection, would now be nearly exhausted, but, on the contrary, it shows no sign of falling off. In the past season, without reckoning numerous mere fragments, no less than

eighteen Urns, sufficiently preserved to identify their forms, have been unearthed from six sites in Scotland, and twelve of them have found their way to the Museum. It might also be thought that it would be vain to look for the discovery of any new variety, yet only a few months ago we welcomed the arrival of four round-bottomed Urns, which were new in this sense that they came, not from the chambered Cairns, from which we got the small number we already possessed, but from the megalithic segmented Cairns of Arran; a striking proof, if any were needed, that there is no finality in Archaeological investigation, even in a department that would seem at first sight to be well worked out.

On the whole, I think the Society may congratulate itself on the amount and quality of the work done in the past Session, and may look forward hopefully to a career not less useful and prosperous in future.

The Treasurer submitted a statement of the Society's Funds, which was ordered to be printed and circulated among the Fellows.

The Secretary read the Annual Report to the Board of Trustees, as follows:—

ANNUAL REPORT to the Board of Trustees for Manufactures in Scotland by the Society of Antiquaries of Scotland, with reference to the National Museum of Antiquities under their charge, for the year ending 30th September 1902.

During the past year the Museum has been open to the public as formerly, and has been visited by 16,415 persons, of whom 15,176 were visitors on free days, and 1239 on pay days.

The number of objects of antiquity added to the Museum has been 374 by donation, and 546 by purchase. The number of books added to the Library has been 103 by donation and 68 by purchase, and the binding of 87 volumes has been proceeded with.

D. CHRISTISON, *Secretary*.

The Secretary read the following announcement with reference to the Barcelona Prize for Spanish Archaeology :—

The Board of Education learn, through the Foreign Office, that in accordance with the terms of the legacy bequeathed to the city of Barcelona, by Senor Don Francisco Martorell y Pena, a prize of 20,000 pesetas will be offered for the best original work on Spanish Archaeology. The essays may be written in Latin, Spanish, Catalan, French, Italian, or Portuguese, and must reach the Municipal Offices at Barcelona not later than noon, on October 23rd, 1906. It is suggested that British Competitors should send in their works through the British Consulate in that town. A copy of the regulations under which this competition will be held may be seen at the Board of Education Library, St Stephen's House, Cannon Row, London, S.W.

MONDAY, 8th December 1902.

DAVID MURRAY, LL.D., Vice-President, in the Chair.

A Ballot having been taken, the following were duly elected Fellows :—

THE HON. JAMES MONCREIFF BALFOUR, 6 Rothesay Terrace.

HENRY J. CUNNINGHAM, Lecturer in Ancient History, University of Edinburgh, Whickham, Durham.

JAMES J. McLAUCHLAN, F.F.A., Secretary, Scottish Equitable Life Assurance Company, 19 Coates Gardens.

The following articles and books, acquired by the Purchase Committee for the Museum and Library during the recess, 12th May to 30th November 1902, were exhibited :—

Circular Stud of Bronze, $1\frac{1}{2}$ inches in diameter, with a broken shank in the centre of the back, and having the front finely enamelled, found in the ditch at the south-west corner of the South Camp at Camelon. It has been described in the account of the excavation of Camelon in the *Proceedings*, vol. xxxv. p. 401, and figured as fig. 38 on p. 402.

Pendant Seal of Glass Paste, mounted in bronze, giving an impression of an intaglio head, also found at Camelon.

Silver Spoon with the Canongate Hall Mark and the date 1589.

A Door-sneek of Wrought Iron, of peculiar form, from Jackson's Close, Edinburgh.

Punch Ladle of Wood, with twisted handle, cut from a single piece.

Two collections of Flint Implements from Glenluce Sands, one from Calbin Sands, and one from Tannadice, Forfarshire.

Original Letter from the Home Secretary (Sir Robert Peel) to the Commissioners, authorising the Regalia to be carried back to the Castle from Holyrood, 22nd August 1822.

Books for the Library :—Milne's Rental-book of James Sixth's Hospital, Perth ; Duke of Northumberland's Incised Markings on Stones and Rocks (privately printed) ; Allan's History of Channelfkirk ; Stothard's Religious Antiquities of Edinburgh ; Records of the Diocesan Synod of Dunblane ; Maidment's Reliquie Antique Scotique ; The Lockhart Papers, 2 vols. ; Chantard's Monnaies au type Esterlin frappees en Europe ; Corpus Inscriptionum Latinarum, vol. iii., Suppl. Fasc. 3 and 4 ; Catalogue of Prehistoric Antiquities, Madras Government Museum ; Proceedings of Society of Antiquaries of London, vols. i. and ii. ; Von Troeltsch, Pfahlbauten des Bodenseegebietes ; Dutton's Boots and Shoes of our Ancestors ; Crum's Coptic Monuments in the Museum at Cairo ; MacLagan's Evil Eye among the Gaelic Highlanders ; Zimmer's Origin and History of the Celtic Church ; Macalister's Studies in Irish Epigraphy, 2 vols. ; Transactions of the Inverness Scientific Society and Field Club (1875-1895), 4 vols. ; Transactions of the Gaelic Society of Inverness, vols. xv.-xx. ; Fischer's Scots in Prussia ; Waring's Art Treasures of the United Kingdom ; Leith-Hay's Castellated Architecture of Aberdeenshire ; Gregory Smith's Specimens of Middle Scots ; Mackenzie's Kilbarchan ; Cormac's Saga (Translation) ; Omond's Arncliffe Memoirs ; and Minor Arts in England, by A. H. Church, C. H. Read, etc.

There were also exhibited :—

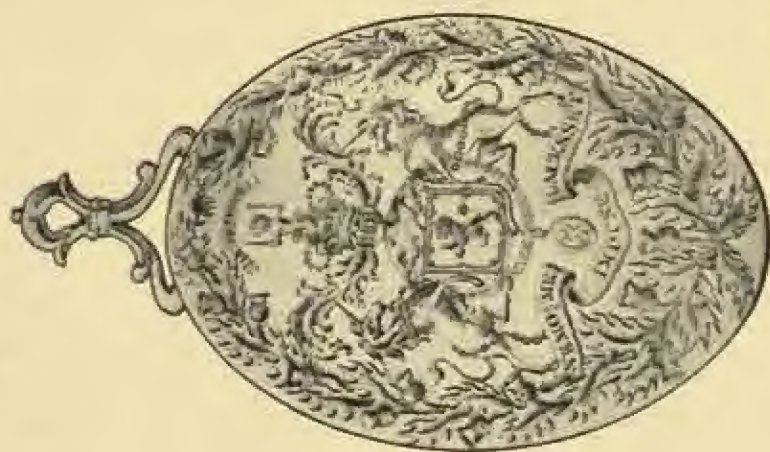
(1) By Miss WIGHT, through Alex. J. S. Brook, F.S.A. Scot.

Silver Medal or Badge (figs. 1 and 2), engraved on the obverse with the Royal Arms of Scotland, and on the reverse with St Andrew and his Cross, and the inscription : "The Associated Sons of St Andrew, a Club instituted at Edinburgh, Anno 1807."

(2) By Mr ROBERT DICKINSON, Longcroft.

Two Urns, found at Longcroft, Lauderdale. [See the subsequent Communication by Mr Francis Lynn.]

The following Communications were read :—



Figs. 1, 2. Obverse and Reverse of Silver Badge of Sons of St. Andrew.

1.

NOTES ON THE EARL'S BÚ (OR BORDLAND) AT ORPHIR, ORKNEY,
CALLED ÖRFJARA IN THE SAGAS, AND ON THE REMAINS OF
THE ROUND CHURCH THERE. By ALFRED W. JOHNSTON, F.S.A.
SCOT.

In the *Orkneyinga Saga*¹ it is mentioned (A.D. 1127-28) that Earl
Haraldr lived at his bú in Örfjara. In 1136:—

"Earl Páll had a great yule feast, and prepared for it at his bú, which is
called Örfura (Orfjara, Flateybook). . . . There were large farm-buildings
(húsa-bær) there, and they stood on sloping ground, and there was a slope at
the back of the houses. And when one came on the brow of the slope
Örridalfjörðr was above it (i.e., on the other side, beyond); in it lies Damisey.
. . . . There, in Örfjara, was a large drinking hall, and there was a door near
the east gable, on the southern side wall, and a splendid church stood before
the hall door, and one descended from the hall to the church. But as one
entered the hall a large slab was to the left, and inside many large ale-casks,
and facing the out-door was a room." The Saga goes on to relate the dispute
between the two Sveinns, resulting in the slaughter of Sveinn breastrope,
after which Sveinn Asleifsson was taken by his accomplices "into the room
facing the out-door, and he was there pulled out through a skjá-window." There
Magnús Eyvindarson has a horse ready saddled and took him away
behind the houses and on to Örridalfjörðr. Then they took ship, and Magnús
brought Sveinn to Damisey."²

In order to identify the site of the Earl's bú in, or called Örfjara,
it will be instructive to compare a list of Earls' búas and residences
mentioned in the Saga, with a list of búas, bulls, or bows and bordlands
of the Earldom, enumerated in the *Rentals of the Earldom*.³

With regard to bordlands, Captain F. W. L. Thomas writes:—"The
Earls of Orkney must, from an early period, have had mensal farms, and
these are marked in the Old Rental as 'bordland,' literally table-land:

¹ Icelandic Sagas relating to the Settlements and Descents of the Northmen in
the British Isles. Edited by Vigfússon and Dasent. Published by the Master of
the Rolls. *Orkney Saga*, caps. 53, 59, 70.

² Skjá (r) is a transparent membrane stretched across a window, and used instead
of glass.

³ MS. translation by Íón Stefnasson, Ph.D.

⁴ Peterkin's *Rentals*.

thus the Bú, *Ból*, N. of Orfer, where the Earls usually dwelt,¹ was *bordland*.² Colonel David Balfour writes:—"Bordland, N. Bord, *mensa, cibus*. The guest quarters of the King or Jarl, and therefore exempt from skatt."³

We find the Earl of Orkney faring about the Islands in 1137, collecting his land rents, when he would undoubtedly have resided at his bú and bordlands.⁴

As the islands were frequently divided among several Earls at the same time in accordance with udal succession they must have had their separate headquarters, for which purpose their bú and bordlands would probably be utilised.

Bordlands of the Earldom landed estate, which paid no skatt. From Rentals 1503-1505.

[Earl's Palace Birsa.]
N.B.—This is not included in the rental, as the whole of Birsa was churchland, in 1503.

[Kirkwall Castle.]
N.B.—Mentioned in Charters of Earldom.

Burray, Bú of.
Burwick in South Ronaldsay.
Hoy, including its Bú.
Orphaire—Bú of Orphaire, with Midland, Howth, and Orakirk.

Earl's Residences, 11th and 12th Centuries. From the Orkneyinga Saga.

Earl Thorfinnr (d. 1064), after his pilgrimage to Rome, resided almost always at Byrgis-hérad, where he built Christ Church (chapter 37).

Earl Páll II. at Byrgis-hérad 1137 (chapter 60).
Earl Rögnvaldr II. at Byrgis-hérad 1155 (chapter 108).

Earl Rögnvaldr I. at Kirkja-vágr 1046 (chapter 34).

Earl Haraldr, who lived mostly in Caithness, died at his bú in Orfjara 1127 (chapter 58).

Earl Páll II. lived at his bú in Orfjara (1136-37) (chapter 60-71).

Earl Rögnvaldr II. at his bú in Orfjara 1154 (chapter 103).

Earl Haraldr Maddadson in hiding at the bú in Orfjara 1154 (chapter 103).

¹ Only two Earls, Páll and Haraldr, are mentioned as dwelling at Orfjara; it is spoken of as a bú of Earl Rögnvaldr, and Earl Haraldr Maddadson was in hiding there at that time.

² *Proc. Soc. Antiq. Scot.*, 1884, p. 254.

³ *Oppressions of the Sixteenth Century in the Islands of Orkney and Shetland*. Glossary, s.v. Bordland.

⁴ *O.S.*, chapter 71.

Bordlands of the Earldom landed estate, which paid no skatt. From Rentals 1503-1505.

Earls' Residences, 11th and 12th Centuries. From the Orkneyinga Saga.

Netherlyking in Sandwick. Westrey—Swartmeill, Wabuster, and Bå of Rapness.

Sanday—Gryndleith, Bås of Brugh, Halkianess, Tofts, Walls, Lopness, and Tretness.

Stronsay—Holland; and probably Clestrain and Musbuster, as they paid no skatt.

? Papa Stronsay paid no skatt, and probably bordland.

Earl Rögnvaldr II. at Hreppis-nes in 1155 (chapter 107).

? Earl Rögnvaldr I. in 1036 fared first to those bús which his father Brúsa had owned (chapter 26). We are told that Earl Brúsa had the northernmost part of the islands (chapter 22).

Earl Rögnvaldr I. killed at Papey in litlu, where he had gone for his yule malt 1046 (chapter 34).

Earl Rögnvaldr II. in 1136-38 had a bú called Knarrar-stadir (chapter 81). This is supposed to be the modern Knarston near Scalpa in St Ola. In the Rental 1503 Knarstane in St Olav's parish is described as *pro rege*, i.e., Kingsland, and formed part of the landed estate of the Earldom. It paid skatt, and was not bordland.

The Saga mentions the *bå* in *Orffara* and the *bå* called *Orffara*. The Rental of 1503 mentions the *bull of Orphair*. In one instance in the Rental of 1503 the spelling *Bow* occurs, viz., the *Bow of Burray*. In the Rental 1642 *Bow* is used throughout. *Bue* is the form in Murdoch Mackenzie's Charts, 1750; and *Bu'* is now adopted by the Ordnance Survey. The pronunciation is uniformly *bōō*, and appears always to have been so. The question is whether *bull* is derived from O.N. *Ból* or *Bå*. The Saga always uses *bå*, which, although a generic term, appears to have become associated with place-names in Orkney and Shetland. However, *Bå*, as now used in Orkney, is still a sort of generic term—it is always the *Bå* of such and such a place, precisely in the same way as used in the Saga. In Orkney and Shetland *ból* is still used; as in Iceland, for a pen for cattle. *Ból* as a place-name in Orkney appears in the termination *bister*=*bólstadr*. The *B* in

bull appears to be a Scottish addition. In illustration of the Scottish influence on Orkney place-names, so far as the letter *l* is concerned, take *edgr* pronounced *vos* in Orkney; in Scotch this becomes *wae* then *wall*, as in *edgur*, *waais*, *walls*, and *Kirkju-edgr*, *Kirkcaw*, *Kirkwall*. The true words are preserved in the folk-pronunciation *Waas* and *Kirkwa*. In the case of Hrölfsey, the *l* has been absorbed in the foregoing long vowel, and we now have Rousey. In the same way as the Scotch pronounce gold *gored*, by a mistaken contra-analogy we occasionally find *fold* for *fowd* (i.e., *foged*).¹ *Boll*, a seed pod, becomes *bow*, where, as in many Scotch words, the double *ll* is changed into *ie*.² And by a contra-analogy the Orkney *bú* becomes *bull*. This Icelandic *bú* is still in use in some Scottish place-names, meaning a house or village, e.g., the Bow of Fife, the Boo of Ballingshaw.³

The earldom landed estate in Orphir parish consisted of a compact district of three tuns, viz., Orphir, Midland, and Houton, with the rúm or farm of Orakirk. These are all described in the Rentals of 1503 and 1595 as bondlands of the *old earldom*, i.e., the Norse Earldom, paying no skatt. This estate was separated from the tún of Swanbister on the east by a tongue of the Common and by a large tract of rough uncultivated land, and the Fidge of Piggar, stretching from the Common down to the coast. From the name Grind (= a house near a grind or gate in the surrounding tún wall), mentioned along with Hangabak in 1503, there is presumptive evidence that the Common at one time extended down to the coast. There is also evidence that the Common behind Houton also extended along the hill top down to the coast, dividing the estate on the north-west from Peterton. We gather this from the fact that Orakirk, which is situated on the shore to the north of Houton, is quoyland, i.e., an enclosure from the Common, and the place between it and Houton is called Midquoy. That Orakirk is an old quoy is evident from its

¹ *Mémoires de la Société Royale des Antiquaires du Nord*, 1845-1849, p. 225. Munch on Scottish and Irish local names.

² *Jamieson's Dictionary of Scottish Language*, s.v. Bow.

³ *Ibid.*, s.v. Boo.

pennyland valuation. The early date of this valuation is lost in antiquity. Later quoya are not so valued.

The whole estate was bounded on the north and the east by the Common, from which it was divided by a wall, and on the south by the sea. There are no walls separating the three túns from each other, merely recognised boundaries—the burn of Too-gill between Houton and Midland, and the ridge of a brek, called Glensbrek, between Midland and Orphir. It formed an ideal estate. Midland and Houton, with the only haven in that part of the Mainland—where King Hakon moored his galley on his return from his expedition to Scotland—and Orphir, with broad lands for farming, extensive meadows, hill-pasture, peat-ground, and a good fresh-water stream,—sheltered by a range of hills on the north (including the indispensable ward or beacon hill), facing the south, and with a safe land-locked sea in front, stocked with salmon trout and other fish. Kerlin-skerry, belonging to the Bá, used to be noted as a place for seal-hunting.

With regard to the name Orphir, as applied to the present parish of that name, we do not know when ecclesiastical parishes were formed in Orkney, nor do we know whether existing civil districts were adopted for that purpose. The Saga does not mention any ecclesiastical or civil district. Byrgis-hérad does not necessarily refer to a civil district, as hérad is used for any district, valley, or country, bordered by mountains, or within the same river basin.

It is noticeable in the names of parishes in Orkney that they are mainly taken from the dedications of the churches, or the names of the túns in which the churches are situated. The parish of Orphir consists of a group of túns, and takes its name from the tún of Orphir in which the parish church and the Bá of Orphir are situated.

The Saga merely mentions the Earl's bá in, or called Örfjara, so that the name Örfjara is clearly that of the Homestead. The tún is the unit of Orkney topography. The original tún by enlargement, and subdivision through adal inheritance, became a group of farms. The site

of the original tún, however, remained the principal farm, the bú or head bú of the enlarged tún.

The Bá of Orphir must have been the original farm from which the tún took its name. The tún of Orphir is described in the Rental of 1503 as consisting of the bull of Orphair ninepenny land, and a group of surrounding farms called the threepenny land of Orphair.

The present Bá of Orphir is situated at the head of the Hope o' the Bá, also called the Bay of Orphir. Between the farm buildings and the shore is the parish church and churchyard, and in the churchyard are the ruins of the Round Church of Orphir. Immediately to the north, outside the yard wall, are the foundations of extensive buildings recently excavated. The ruins and the church stand on a gentle rising ground at the foot of the south-east declivity of Midland Hill. At the east end of the site and of the ruins the ground slopes down abruptly to the stream. The Saga states that the houses stood on a slope, which may either refer to the declivity of Midland Hill or to the rising ground on which the ruins stand. The Saga description is extremely loose and brief. It takes Sveinn "away *behind the houses* and on to Örríðafjörðr," and mentions a *brekka* or *leiti*, a slope *behind the houses*, from which Damsey could be seen, both of which are four and six and a half miles distant respectively.

The Rev. Alexander Pope states, in 1758, that large and deep foundations were found underground in the lands of the Bow, near the church, but that there were no local traditions as to the Earl's Palace.¹ Mr George Petrie states, in 1861, that the immediate neighbourhood of the Round Church abounded with numerous traces of ancient buildings believed to be the remains of the Earl's Palace.² Some years ago, the writer pointed out to the Rev. W. Caskey, incumbent of the parish, the spot where the Earl's Bá would have stood in relation to the Round Church, in accordance with the description in the Saga. At that time there were no indications of any ruins, and the locality of

¹ *Torfaeus, Hist. Orkney*. Translated by Rev. Alexander Pope, p. 107, foot-note.

² *Archæological Journal*, vol. xviii., Round Church of Orphir.

previous excavations was unknown. In 1899 the grave-digger came across foundations in the north-west corner of the churchyard, lying from west to east. As this would correspond with the south wall of the Earl's Bú, Mr Robert Flett of Bellevue, Hon. District Secretary of the Viking Club, made two excavations to the eastward in line with the supposed wall, with the result that it was again struck. In 1900 Mr Flett and the writer made a series of excavations, tracing the buildings to their eastern extremity. In 1901 they made a careful excavation at that part where the doorway would be, in accordance with the Saga description, with the result that such an opening was found (see plan, fig. 1). The wall, so far as excavated, measures about 136 feet in length. The western extremity has not been traced; it probably terminated at the west end of the churchyard, as no trace could be obtained outside. Beginning at the west end of the yard there is a continuous length of about 104 feet of dry built random-coursed wall, 4 feet thick, without footings or scarcement; this terminates eastward at the supposed doorway, opposite the church. It was not possible to excavate immediately east of this to find the other jamb of opening, owing to the present church road wall. But 6 feet $4\frac{1}{2}$ inches to the east, on the other side of the road wall, was found the return wall of another building in the same frontage line. This latter building has walls 4 feet thick, but built with mortar, and therefore probably of later date. The jamb of the opening showed no signs of a door frame or fastening. In a line with the jamb of the door on its north side, and standing on end, was found part of a large flat stone 5 inches thick.¹ The bottom of the foundation of this wall is level with that of the Round Church. In the doorway, alongside of the stone on end, and 2 feet 4 inches above the foundation level, was another flat stone 5 inches thick, lying on its side, which may have been the threshold of a door, or otherwise a portion broken off the stone on end. If it was the threshold, then the floor of the Bú must have been 2 feet 4 inches above that of the church, which would accord with the Saga statement

¹ Is this the slab mentioned in the Saga?

that one went down from the Bå to the church. As the foundation of the cross wall to the west of the doorway is about level with the flat stone in the doorway, probably this was the floor level, and the space between the stone on end and the cross wall would be the ale-room mentioned in the Saga. If the stone on end is in its original position, then the fact that its lower portion is irregular shows that it was probably the socket underground, and is an additional proof that the flat stone in doorway was the floor level. The fact that the wall above the level of the flat stone, and above the foundation of the cross wall, has fallen down, while below it remains intact, appears to show that the



Fig. 2. The two halves of the midrib of a Bone Comb of the Viking period found at Orphir.

lower portion was buried foundation below the floor level. All along the north or inside of this wall the stones have fallen down, and are mixed up with quantities of bones, ashes, and oyster shells. The only articles found were the two halves of the ornamented midrib of a bone comb of the Viking period, shown in fig. 2, which were lying near the first step of the apse of the Round Church; and a round handle of deerhorn or bone from the westmost excavation of the wall of the Bå.

Up till 1829 the old church road, or 'masey gate,' crossed the stream immediately to the east of the church, and then branched into two sections going round outside the north and south walls of the churchyard, so that the wall now excavated was under the north road.

The whole site is now covered with 5 feet deep of débris above the clay upon which the foundations of the church and Bá are built.

The Round Church, of which all that remains is the apse and a small part of the wall of the nave on each side (see fig. 1 and fig. 3) is undoubtedly one of those twelfth century churches built in imitation of the church of the Holy Sepulchre.



Fig. 3. Apse of the Round Church at Orphir.

With regard to the founder of the church, the Rev. Alexander Pope states, in 1758, that some thought it had been built by Earl Hákon after his return from Jerusalem, and adds that "Hákon, it seemed, chosen Orphir for his seat." Dr Joseph Anderson states that Hákon "had his residence at Oður,"¹ and that "he seems to have resided"² there, and probably built the church. The late Mr B. H. Hossack, in his recent

¹ *Scotland in Early Christian Times*, Edinburgh, 1881, p. 29, foot-note.

² *Orkneyinga Saga*, Translation, p. xcv.

work, *Kirkwall in the Orkneys*, apparently founding on Dr Anderson, states that Hákon built the church. Thus the surmise of one writer becomes the fact of another. All these statements as to Hákon living in Orphir and building the church are mere inferences. We have no proof that Earl Hákon was ever even in Orphir. He may have visited Orphir, among his other bés, when on circuit collecting rents and skatta. We are not told where he lived, and merely know that he died in the islands. Earl Páll was living in Orphir in 1136, when the church was first mentioned, and his father, Earl Hákon, was the first and only Earl before that time who visited Jerusalem. If Earl Hákon built the church he probably did so after his pilgrimage to Jerusalem, between a few winters after he murdered St Magnus in 1116, and c. 1123 when he died.

The Rev. Francis Liddell in 1797 suggested that the Earl's Palace stood at Oback in the tún of Tuskerbister, in Orphir parish, as answering to the Saga description.¹ Oback is on the slope of the hill from which Damsey can be seen. Possibly he was misled by a tradition which says that the Earl of Caithness was slain at Oback after the battle of Summerdale in 1529.² Mr Liddell suggests that "The ruins of an ancient tower, of a circular form, and about 180 feet in circumference," in Swanbister, was probably the residence of Sveinn breastrope, from which the place took its name "Suenobister." This ruin, however, is the remains of one of the many pre-Norse broughs in Orkney and Shetland. From measurements taken by the writer in 1879 and 1901, the internal diameter is about 30 feet, which, with the 12 feet thick dry built walls, gives a circumference of about 170 feet.

Somehow or other, after this suggestion by Mr Liddell, *Sveinn* got locally confused with the *Earl*, and in a MS. map of Swanbister, in 1847, we find the Brough marked as the "ruins of Earl Sweyn's Castle."³ The transition from "Earl Sweyn's Castle" to "Earl's Palace" was then

¹ *O.S.A.*, vol. xix, p. 394.

² *Peace's Handbook to Orkney, Kirkwall, n.d.*, and J. T. Calder's *Hist. of Caithness*, 2nd ed., 1887, pp. 111-112.

³ MS. map by the late James Johnston of Coulbister, Orphir, in the possession of James Johnston of Coulbister, Orphir.

an easy one. Already, in 1842, the minister of the parish mentions the "Earl's Palace" at Swanbister.¹ In the advertisement of the sale of the estate of Swanbister, in 1844, it is stated, as an attractive feature of the property, that it was "in ancient days the residence of the Norwegian Earls of Orkney, the remains of whose palace are yet in existence."²

The new proprietor of the estate, buying it on that understanding, we are therefore not surprised to find Professor P. A. Munch writing in 1845-49, that the *inhabitants* still show the ground of the Earl's seat at Swanbister.³ As a matter of fact, this spurious tradition has never become folklore. The Brough at Swanbister is called by the inhabitants the "hillock o' Brecknay," from the name of the neighbouring farm.

There are no traditions now, no more than there were in 1758, in Mr Pope's time, as to the site of the Earl's Palace.

Professor Munch located Örfjara at Swanbister primarily because he found there a large flat tract of land which was sometimes submerged by the sea, and Örfjara, or its derivative Örfyri, he says was anciently used of a considerable extent of flat land covered at flood and dry at ebb, and in proof refers to two islands in Norway, now called Offersö, but anciently Örfyrisöy, both land-fast during ebb. But, as will be shown later on, Örfjara, or its derivative Örfiri, is solely applicable to the reef or neck of land which connects a tidal island to the mainland, and consequently the only parallel names which Professor Munch can adduce are those of two such islands. The proper designation for a low ebbing shore is *út-firi*, neuter (Cleasby fem., wrong), a long foreshore where the water recedes far and leaves shallows running out from the beach.⁴ The tract of land referred to by Professor Munch is called the Fidge of Piggar, from O.N. *þít* = low-lying meadow beside water, which exactly describes the place. Swanbister is described in the Rental of 1503 as udal land paying skatt, and is not mentioned as having formed part of

¹ N.S.A., Orphir.

² Advertisement in possession of the writer.

³ *Mémoires de la Société Royale des Antiquaires du Nord*, 1845-49, p. 252.

⁴ Dr Jón Stefánsson, at present engaged on an Icelandic-English Dictionary for the Clarendon Press.

the old Earldom landed estate. It was completely separated from the Earl's estate in Orphir. Professor Munch found that the site shown him, viz., that of the Brough, in relation to the adjoining site of a chapel, did not correspond with the Saga description, and there was no room for a chapel between the Brough and the shore, so he accordingly accepted the site of the chapel as that of the church mentioned in the Saga, and placed the palace in imagination to the north, suggesting that the Brough might have been one of the out-buildings.

Professor Munch says that Orphir seems in former times to have been the common name of the whole coast from Houton to Waulknill, but quotes no authority. It has already been shown that Orphir, excluding the parish name, is alone applicable to the tⁱⁿ of that name (in which the B^a and Round Church are situated), the inhabitants of which are still spoken of by their neighbouring parishioners as the 'Orpl^{ur} folk.' At most the name could only have included the Earl's estate of Orphir, Midland, and Houton, to which latter is attached a tidal island, called the Holm of Houton, an Öfirisey, to which we must look for the origin of the name. Although Professor Munch visited Orphir, and consulted the Rentals, he makes no mention of the Round Church, or the B^a of Orphir, bordlands of the old Earldom.

The Saga, before relating the murders and Sveinn's flight, appropriately describes the relative position of the house and church, and the island of Damsey to which Sveinn fled, all of which are brought into the story. It says, behind the houses there was a *brekka*, a slope, or *leiti*, an elevation on the horizon hiding the view, from which Damsey could be seen,—the inference being that this elevation was on the road by which Sveinn fled. Professor Munch says that it could only refer to the Ward Hill, but that Damsey could not be seen from it, as the Keely-lang hills intervened. The Ward Hill is the highest hill on the mainland, and is a *fall*, and not a mere *brekka* or *leiti*. The straight track from the tⁱⁿ of Orphir to the Bay of Firth, by which pedestrians still go, is through the moor, and after a long, tedious ascent the slak or hollow between the hills of Lyradale and Keely-lang is reached,

when the Bay of Firth (*Örridafjörðr*) and Damsey suddenly break into view. The complete change of scene is striking. This can only be the elevation mentioned in the Saga, and it is part of the range of hills which Professor Munch said prevented Damsey from being seen from the Ward Hill. No one acquainted with the locality would ever think of going to Firth by way of the top of the Ward Hill, or expect to get a view of Damsey from it. The slak mentioned is the nearest point to Orphir from which Damsey can be seen, and it is on the direct and shortest route to Firth by which a fugitive would go.

The following remarks as to the derivation and significance of the word *Örfjara* are founded mainly on a correspondence with Mr Eiríkr Magnússon of Cambridge and Dr Jón Stefánsson:—

Örfjara, derivative *Örfri*, Icelandic, neuter, is solely applicable to the reef or neck of land connecting a tidal island (*Örrisey*) to the mainland. It is derived from *ör*=out of, a negative prefix, and *fjara*= (1) low water, opposite to high water *flód*, (2) foreshore, or the part of the beach dry only at low water, and covered at high water. *Örrisey* would thus mean "out of ebb island," i.e., showing above the water-line at ebb-tide. There is no difficulty in the way of the term *Örfjara* extending from the appendage to the adjacent parts of the mainland. The Houta of Houton must therefore be the original *Örrisey* and the adjoining land *Örfjara*. But how came the name to be restricted or transferred to the present *Bú* and *tún* of Orphir, and the name *Örrisey* discarded?

There are two solutions. (1) The whole district of the Earl's estate from Houton to Orphir may have been originally called *Örfjara*, and the name afterwards restricted to the Earl's *Bú*; or (2) Houton, adjoining the tidal island, may have been the original *Örfjara*, and the Earl's *Bú* first erected there, and afterwards shifted to its present site, taking the name with it. In either of these cases, when the name got attached to the abode, and people no longer understood the exact meaning of *Örrisey*—which must have got lost very early in Orkney, considering that the same took place in Iceland—the term *Örrisey* became meaningless to people

and Hólmr took its place. Örfirisey, just outside Reykjavík, has for a long time gone under the name Effersey as though it were named after some person called Effer, which shows how utterly unconscious the Icelanders themselves became of the sense of the old name. Even this island figured for a time as Hólmr. Professor MacKinnon of Edinburgh University writes that there are nine or ten Örfiriseys in the Hebrides, where the name is changed in Gaelic to Ornsay, the *f* and second *r* being discarded—*f* aspirated and *r* merged in *s*. The name on the maps appears wrongly as Oronsay. There is also an island Örfasey at the south of Yell in Shetland. Örfiriseyjar occurs in the *Diplomatarium Islandicum*, i. 597. In Norway, Örfyrisey occurs in the middle ages, and Offersø in three places in modern Norway.

Houton is probably the Icelandic Há-tún, or high tún, which is descriptive of the place as it lies on the hill side. This name is found in many places in Iceland, but is not recorded in any Saga relating to Norway. It is a curious fact that almost all the Há-túns in Iceland are small tenements within or on the land of a manorial or main estate; and what seems tolerably certain is, that when the manorial abode was erected, Há-tún, even if it was the older abode, became the inferior house and remained so ever after.

Even Midland is not without significance. From the name of one of its farms Myre, Icelandic Mýrr, a swamp, which is still descriptive of the place, it would be unsuitable for farming purposes, and Midland would be an appropriate name for this unprofitable land which divided the bá from its Há-tún or out-bá. The Norse term Medalland could only be given to a place which lay between two localities that had distinct names. Midland is mentioned as early as 1263, when King Hákon was there,¹ so that we may be quite certain that at that time, and in 1136, Örfjara was solely applicable to the Earl's Bú. Another important inference that may be drawn is that Midland implies a connected district of three places. This may refer to (1) the Earl's three farms, (2) the tripartition and re-naming of the original district

¹ *Hákonar Saga*, Rolls Edition, chapter 223.

of Örfjara, or (3) the middle place between the original Örfjara and the shifted abode of the Earl.

It is now hoped that it has been proved that the Earl's Bú in, or called Örfjara, mentioned in the Orkneyinga Saga, is identical with the present Bú of Orphir—which in 1503 was described as *bordlands* of the old Norse Earldom—and that the foundations recently excavated at the Bú of Orphir and the ruins of the Round Church are those of the Earl's Bú and kirk, to which they answer in every particular as described in the Saga.

With regard to the preservation of the ruins of the Round Church: The east end of the present parish church, which is of the usual barn-type, stands on the western half of the site of the nave of the Round Church, the foundations of which are buried underground. It is now proposed to pull down the parish church and build a new one further west, excavating the foundations of the round nave and preserving the ruin as an ancient monument. If the ruin of the Round Church is to be preserved, something must be done soon, as the vaulted roof of the apse is in a very precarious state, owing to the action of the grass roots eating away the mortar and disintegrating the masonry.

II.

NOTICE OF THE DISCOVERY OF CISTS AND URNS AT LONGCROFT,
LAUDERDALE. By FRANCIS LYNN, F.S.A. Scot.

Those who have had the fortune to visit Longcroft, in Upper Lauderdale, with its fine conical hill, crowned by extensive and intricate British fortifications, will readily remember a small knoll in the valley just below Longcroft Farm, and beyond the burn on the left when facing downwards. Its form and the obvious labour which had been spent in forming it into terraces at once caught the eye, and without any direct proof it was believed to be a British burial mound. In natural structure it is a grass covered knoll, the core of which is silurian rock, much tilted and shivered. Generations ago a quarry was opened in its southern side, which was rapidly destroying its form. When the late Mr Dickinson entered the farm, some fifty years ago, his good taste caused him to put a stop to the destruction of the hillock, and since then the quarrying has ceased.

Recently the shepherd informed the Messrs Dickinson that the children had discovered an urn near the top of the knowe, and had kicked off the bottom part, which was uppermost, and found it to be full of small fragments of bones. Mr Dickinson at once went and took steps to protect it till a regular examination could be made; and then arranged with Provost Turnbull of Melrose to join him in investigating the matter. On the 10th of May last, Provost Turnbull went up to Longcroft, taking with him Dr Routledge, Melrose, and Francis Lynn, Galashiels. After reaching Longcroft, along with the two Messrs Dickinson and several of the shepherds, an examination of the knoll was made. The urn was found on the brink of the old quarry, and the material around it having been carefully removed it was seen to be inverted with its mouth resting on a flat stone and filled with incinerated bones. It was also found that it had been deposited in a roughly built cist, one side of which had partly fallen into the quarry. Amongst the

fragments of the incinerated bones which formed the contents of the urn, there were noticed the crown of a human molar tooth, and a front or cutting tooth.

The urn (fig. 1) is of the ordinary cinerary type, with an overhanging brim, a constricted collar between the overhanging brim and the shoulder, and below the shoulder a plain flowerpot-shaped lower part. The diameter over the mouth is 7 inches; the rim, which is $\frac{5}{8}$ of an inch in thickness, is slightly bevelled inwards, and ornamented with an



Fig. 1. Cinerary Urn found in the first Cist at Longcroft. ($\frac{1}{2}$.)

irregular zigzag line running round the whole circumference. The overhanging brim, which is $1\frac{1}{4}$ inches in depth, is ornamented in two bands, each $\frac{1}{4}$ of an inch in width, the upper band consisting of parallel lines crossing each other obliquely, about $\frac{1}{4}$ of an inch apart, while the lower band consists of a series of triangles with lines drawn parallel to one side, alternating with plain triangular spaces. The collar underneath the overhanging brim is ornamented with parallel lines, crossing each other obliquely, so as to form lozenge-shaped spaces similar to those on the upper band, but larger. All the lines of the

ornamentation have been made with a thin edged implement drawn smoothly into the surface of the soft clay. The vessel has been well fired, and the surface is fairly smooth and hard.

Outside the urn, on the east, and at a slightly higher level, were found a deposit of bones. Much broken up, these also had been burned, and were laid aside for after examination.

But while this cist was under examination, the workmen had struck the edge of a stone, evidently of large size and great weight, and evidently also foreign to the locality. This with some labour was now uncovered.



Fig. 2. Urn of Food Vessel type found in the second Cist at Longcroft. (4.)

and with the application of strong levers was tilted over, revealing below it a fine cist 3 feet long, 2 feet deep, and 1 foot 6 inches at the one end, and 1 foot 10 inches at the other or eastern end. The cavity was quite full of a rich dark mould, which was dug out with care. At the bottom, in the western end, was a very finely ornamented "food vessel urn."

This urn (fig. 2) stands 5 inches in height and $5\frac{3}{4}$ inches in diameter across the mouth. The lip is bevelled inwardly and also to a less extent outwardly, and the surface on both bevels is ornamented with parallel oblique lines made by a comb-like instrument. The collar,

or hollow moulding between the brim and the shoulder, is decorated with seven closely set rows of similar markings running horizontally round the circumference. The projection of the shoulder itself is marked with a double row of indentations as if made with the end of a small twig or stem. Below this is a band, $1\frac{1}{4}$ inches in width, filled with a pattern formed of lozenge-shaped spaces in the centre, each surrounded by five closely set lines of comb-like markings arranged round the central lozenge and parallel to its sides. This band of lozenge-shaped ornament is bounded on the lower border by a double row of indentations similar to those on the upper side. From this border the lower part of the urn tapers gradually to a flat bottom of 3 inches in diameter. The tapering lower part is completely covered by zigzag rows of comb-like markings set parallel to each other, and less than a quarter of an inch apart.

This urn was filled with the same rich mould as the cist itself contained. The examination, as carefully made as was possible in the time at the disposal of the party, did not reveal any other object besides the urn. The sides of the cist were smooth and well formed, and the top edges square and straight. Its position in the knoll was on the summit, and before the outline was broken by the quarry this cist would be near the centre. The stone cover is of whinstone, irregular in form, and measuring 4 feet 6 inches long by an average width of 2 feet 10 inches; its thickness will average 10 inches. The upper side was lumpy and uneven, and bore traces of exposure and weathering through long ages, but the under surface was smooth and even, almost straight.

The result of the day's exploration is that the green knoll, with its striking outline, and carefully formed encircling terrace, is now known to be a British burial mound. Close beside it runs the line of ancient roadway, of Catrail type, descending from the great Fort on Longcroft Hill, and connecting it with the numerous forts on the hills around.

III.

ON THE CAIRNS OF ARRAN—A RECORD OF FURTHER EXPLORATIONS DURING THE SEASON OF 1902. By THOMAS H. BRYCE, M.A., M.D., F.S.A. *Scot.*

In a paper submitted to the Society last session I described a group of cairns which occur in the South-West corner of Scotland, and which I defined tentatively as follows:—"A class of sepulchral cairns not certainly known to have either a definite ground plan or setting of standing stones, containing a segmented megalithic structure built of large lateral slabs without walling of smaller stones; probably in all cases covered by large flagstones, and divided by septal slabs into a series of independent compartments or cists, to which there is no approach by means of a passage; in each compartment are found multiple burials by inhumation, perhaps in some cases after cremation, associated with the remains of animals, chiefly of the domestic mammals, with implements of stone, and pottery consisting invariably of round-bottomed vessels."

In this group, which occurs in Arran, Kintyre, and Islay, I included two cairns near Kilmartin in Argyleshire, described many years ago by Canon Greenwell and Rev. J. R. Mapleton.

In my paper of last year, I expressed the hope that further exploration in Arran would supply the evidence wanting for the reconstruction of this type of cairns. This hope has been in a measure fulfilled by this season's excavations. I have examined five examples of the class. Of these I have explored four; the fifth had been previously much disturbed, and I contented myself with planning it.

I. CAIRN BAN, KILMORY WATER.

About six miles from the sea, at the very head of the Kilmory Water, high up above the stream, close to the 900-foot contour line, stands a very large cairn of loose stones. It is far beyond the limits of cultivation, in the heart of the hills, and the nearest cottage is more than a mile away. It has been little interfered with, and retains in all probability much of its original character.

The cairn is peculiarly placed. It stands on the steeply sloping side of the glen (fig. 1), below the brow of the hill. At its lower end it rises 15 or 17 feet above the slope, but runs out to the ground level at its upper end. In shape it is roughly rectangular, the sides being straight; the total length is 100 feet and the average breadth 60 feet. The long axis is directed approximately W.N.W. and E.S.E. At the east or upper end, between the top of the cairn and the steeper slope of the hillside, is a nearly flat area of about 30 feet in diameter, of



Fig. 1. Carn Ban, Kilmory Water—looking South,

circular shape, partially marked off by a series of upright stones (fig. 2). These rise above the present ground level from a few inches to 2 feet. Many of the stones are now missing, and there is some doubt as to what may have been the original shape of the setting. Some stones extending north and south form two lateral arms, and the cairn extends up towards them on either side; but as it runs out to the ground level here, it is difficult to define exactly its limits. The impression conveyed is that the lateral arms form the upper limits of the cairn laterally, while in the centre it is hollowed out into a bay, bounded by the stones

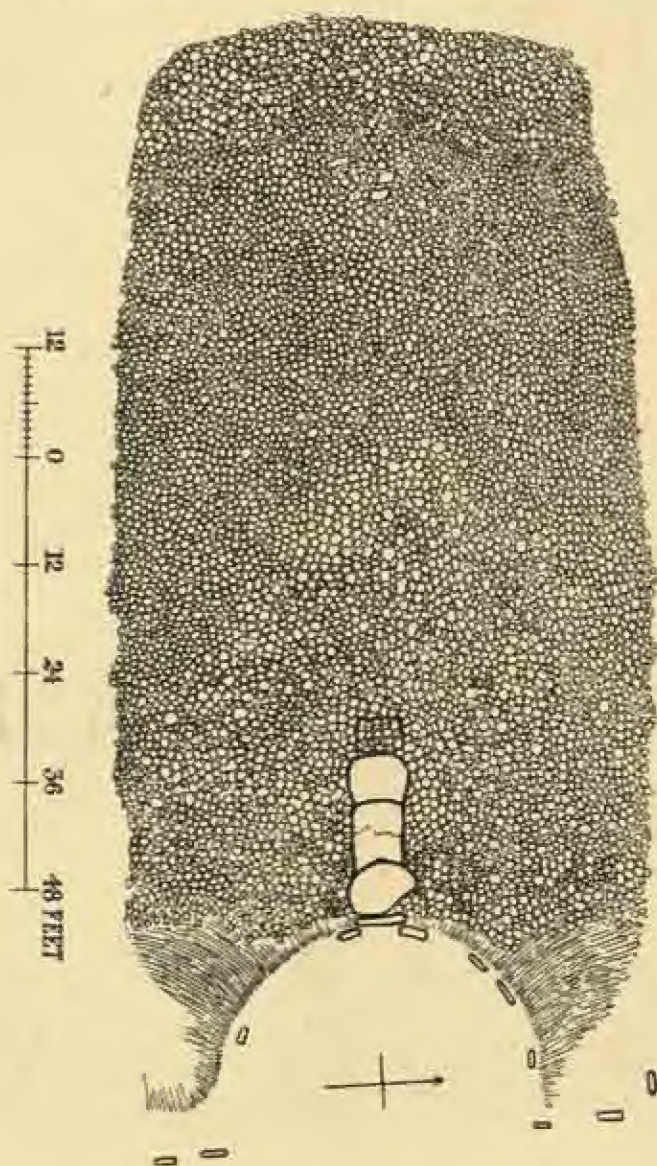


Fig. 2. Plan of Carn Ban, Kilmory Water.

arranged circumferentially. If this were so, the arrangement would be similar to that observed in the horned cairns of the northern series. On marking out the diameter, however, to discover if the setting were semicircular or circular, I found one small stone arranged exactly on the circumference, and so placed that it may have formed a member of a circular setting. This single stone may be fortuitously placed, and I must leave the question open, remarking merely that every analogy points to a semicircular rather than a circular setting being the original structural plan.

The outermost stone of the northern arm is placed with its axis in a line with the long axis of the cairn, and it seems likely that it may have represented one of a series of stones mapping out the outline of the cairn. I could not, however, determine the presence of any other members of such a series standing free, and I excavated both at the lower and northern lateral edges of the cairn, to ascertain whether there might have been a retaining wall or peripheral setting, but with negative results. Returning to the semicircular setting at the upper end of the cairn, the largest stones of the series, which are 2 feet 2 inches and 3 feet 4 inches broad, and 1 foot 8 inches and 1 foot 4 inches thick, respectively, stand in the axial line of the cairn, and the space between them, 3 feet 5 inches across, forms, as will be explained later, a portal into a chamber which was found to occupy the upper end of the cairn.

Immediately behind this pair of stones is a somewhat conical stone on edge, which forms a kind of lintel to the portal. It is 5 feet 9 inches long, 1 foot 10 inches thick, and 2 feet 2 inches deep. Resting against this, on its horizontal face, is an irregular block of schist, 5 feet 9 inches long, by 5 feet 8 inches broad, and 1 foot 2 inches thick. It overlaps a second large flag of soft sandstone, 7 feet 2 inches long, by 5 feet 2 inches broad, and 8 inches to 1 foot thick. This stone has been broken across, and the upper part has also been split longitudinally and its two lateral parts are tilted up, forming the supports of the first flag. This second flag in turn overlaps, by 2 feet 6 inches, a large

irregular slab of granite which measures 6 feet long, by 6 feet broad, and is 1 foot 4 inches thick. These three slabs thus overlapping one another are exposed on the surface of the cairn, but from the fact that the cairn is higher below it is probable that they were at one time covered over—though it is certain that they cannot have been buried to any great depth.

Such was the information which it was possible to gather before excavation. I commenced the excavation by sinking a hole into the cairn beyond the granite slab. After clearing away the loose stones to the depth of 2 feet, a flat sandstone slab was bared, about a foot below the level of the granite slab. This was raised and removed. Below, we found loose earth and smaller stones, and when this was removed to a depth of 18 inches the upper edge of a sandstone flag, set transversely, was revealed and defined. It measured 2 feet 8 inches broad. Having ascertained that beyond this stone there was no structural arrangement, but only the loose stones of the cairn, the space was cleared to its upper side. Here it was discovered that there was a central trench-like space filled with loose earth and stones, and bounded on each side by carefully built walls of sandstone flags, set horizontally and piled on top of one another. The upper tier of small flags projected considerably over the lower tiers (fig. 4). The trench was now cleared, room to work being obtained by removing the projecting flags. At a depth of about 4 feet it was found that the built structure ceased, and the walls were formed by large flags, such as have been described in all the denuded megalithic structures in Arran. An attempt was now made to work up under the large granite slab, but when the earth was taken away, being on the slope, it showed signs of sliding, and the attempt had to be abandoned. I had meantime removed the surface and earth opposite the portal, but it was impossible to work in from that end, because the side stones quickly approached one another below the ground level, and there was barely room for a man to squeeze through the space. It was decided, therefore, to remove the roof by levering over the large slabs. When this was accomplished, they were found to rest on a series of sandstone slabs of irregular shape,

but roughly rectangular, and reaching outwards for varying distances, from 2 feet to 4 feet. They were arranged like the steps of a stair (fig. 3), from the upper end into the centre of the cairn. The interval left between their mesial edges was only 18 inches. No progress could therefore be made till these were in turn removed, but when this was done it was found that the walls of the chamber were vertical, and it was possible to clear it out in its whole depth without further disturbance. The trench was filled with earth and stones, some of large size; and as the wash from the hill had run through it, the earth in the deeper parts



Fig. 3. Sectional Plan of Chamber, Carn Ban.

had been converted into tenacious claggy clay. This made the operations very difficult, and rendered it impossible to riddle the material thrown out. At all levels charcoal in particles and larger pieces was observed, and the bottom of each compartment was covered by a charcoal layer of about 2 inches thick. I shall now describe the structural features of the chamber by aid of the sectional and ground plans made on the spot (figs. 3, 4, 5).

The whole chamber from the portal to the end stone measures 18 feet 8 inches, and the general depth is about 9 feet. The upper 3 to 4 feet of the walls is formed of flags and blocks of sandstone of varying size,

built after the fashion of a dry stone dyke, while the deeper part is formed of very large flags of irregular shape and size, set on end or edge.

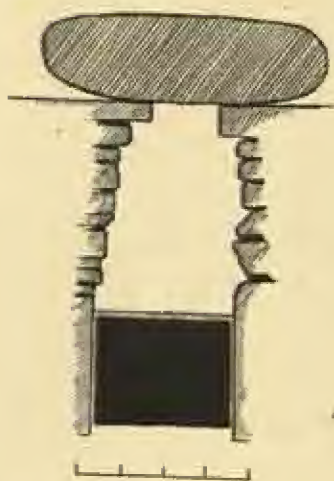


Fig. 4. Sectional Plan of Chamber,
Carn Ban.



Fig. 5. Ground Plan of Chamber,
Carn Ban.

Of these there are four pairs set opposite to one another, and at or about their junctional points transverse septal slabs are placed, dividing the chamber into four compartments in its deeper part. The west end is

closed by a tall slab 5 feet high, placed on end, while the upper compartment is completed below the level of the portal by a low transverse stone. It is not necessary to give the details of the measurements of the component stones. It will suffice to say that the compartments from the portal at the east end inwards measured—

The 1st,	4 feet	8 in.	by 2 feet	2 in.	to 3 feet 8 in.
„ 2nd,	4 „	4 „	by 3 „	6 „	to 5 „
„ 3rd,	3 „	10 „	by 2 „	10 „	
„ 4th,	3 „	8 „	by 2 „	8 „	



Fig. 6. View of the Portal of the Chamber, Cairn Ban.

The longitudinal (fig. 3) and sectional (fig. 4) plans show that between the septal stones and the roof there was clear headroom of 4 feet at the lowest, to 6 feet at the highest point.

Fig. 6 represents the entrance to the chamber after the roof was removed. The left-hand stone is 2 feet 2 inches broad at the apex, by 1

foot 8 inches thick, but broadens rapidly to the base, which is 6 feet 6 inches from the apex. The right stone is 3 feet 1 inch broad by 1 foot 5 inches thick, and also broadens at its base. The space between the stones, which is 3 feet 5 inches above, is thus much reduced below, and no passage is possible save through the upper part. The bases of the stones are, further, 2 feet 6 inches above the floor of the chamber, so that the access to it was very considerably raised above the floor level.

Owing to the wetness of the soil in the interior of the compartments, any osseous remains must long ago have been dissolved away. A fragment of burnt bone was picked up, but it was impossible to say whether it was human bone or not, and another unburnt fragment was probably from a human long bone. No pottery was seen, and the only possible relics of the builders found were a worked piece of flint, and a flake of Corriegills pitchstone.

Though the excavation was a blank as regards relics, it throws considerable light on the nature of these megalithic structures in Arran; but I shall postpone discussion on this point until I have described the other structures explored.

II. "GIANTS' GRAVES," WHITING BAY.

The megalithic structure known popularly by this name is the largest of the denuded structures of this class in Arran. It stands on a ridge 400 feet above the sea, overlooking the bay on the south, in a commanding and romantic situation (fig. 7).

The cairn in which the structure must at one time have been embedded is now in great part removed, the base alone remaining. It rises about 2 feet above the general level of the flat terrace on which it rests, and is 98 feet in length by 60 feet in breadth. The megalithic structure is at the northern end, in the long axis of the cairn which runs N.N.E. and S.S.W. Close to the northern corners of the cairn there are two standing stones (fig. 8). The eastern stone is 5 feet broad and 1 foot 3 inches thick; it stands 4 feet above the ground, with its long axis east and west. The western is smaller, 3 feet 6 inches broad by 6 inches

thick, and 3 feet above the ground. The long axis is directed north and south. On each side of the north end of the megalithic structure there is a recumbent stone, the one measuring 5 feet by 4 feet 7 inches and the other 5 feet 7 inches by 3 feet 7 inches. It is now impossible to say definitely what relation these four stones may have had to one another originally, but in the light of the Carn Ban setting, it is not at all improbable that they may have been members of a series such as



Fig. 7. "Giants' Graves," Whiting Bay, from the South.

is found at that cairn. If this were so, they would have the same relation to the portal of the megalithic chamber.

The megalithic chamber itself is 24 feet over all. At the north end it is bounded by two stones which form a narrow portal; the eastern stone is 6 feet high, 2 feet 6 inches broad, and 1 foot thick; the western is 4 feet 4 inches broad, and stands 4 feet 9 inches above the ground. The interval between their mesial edges is 18 inches, affording a very narrow entrance to the chamber. Between these stones and the end of

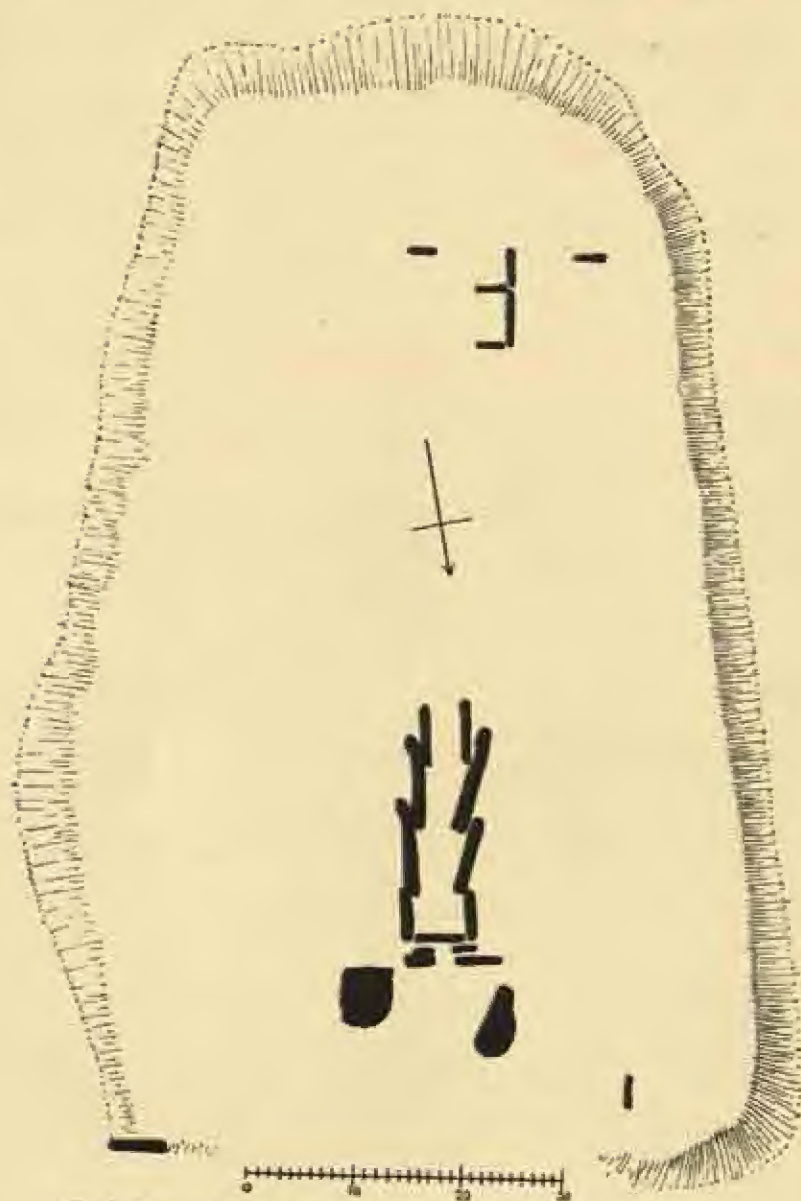


Fig. 8. Ground Plan of Cairn known as "Giants' Graves," Whiting Bay.

the chamber proper there are two smaller stones wedged. This portal is 16 feet from a line joining the two stones at the corners of the cairn.

The chamber is open at the south end, and there is now no roof; but leaning against the western wall is a huge flag of irregular shape, measuring 7 feet in both diameters. There seems little doubt that this must have formed a roofing flag, but it is difficult to see how it could have been displaced, as it must weigh some tons. If, as seems to me probable, the chamber had, as at the Carn Ban, an upper section of smaller flags, it follows that when the cairn was demolished and the supports of these smaller stones were thereby removed, the weight of the large roofing flag would cause a collapse of the walling, and that this stone would naturally slide into the position which it now occupies.

The lateral walls of the chamber (fig. 9) are formed of four pairs of very large and irregular blocks set on edge. Beginning at the south end, the first pair lie nearly parallel; the east stone is 5 feet 6 inches broad, 6 inches thick, and 4 feet 2 inches deep; the west is 5 feet 7 inches long, 7 inches thick, and 4 feet 7 inches deep. The space between them is 3 feet 6 inches, narrowing to 3 feet 4 inches. The second pair overlaps the first on their outer sides; the west block is the largest of the series, measuring 9 feet long, 2 feet thick at its base and 10 inches at its apex, and it stands 5 feet 4 inches above the floor; the east member is 7 feet 8 inches long, 9 inches thick, and is 4 feet deep. The ends of these stones are 2 feet 7 inches apart at the north ends, and diverge much from one another. In like manner, the third pair overlap the second. They measure—the east 9 feet long and 6 feet 2 deep, the west 6 feet long by 3 feet 4 inches deep. The fourth pair are narrower stones—the east 3 feet 4 inches broad, 1 foot 3 inches thick, and 6 feet 2 inches high; the west is 5 feet broad, 2 feet thick, and 6 feet 3 inches in height. I give these measurements in detail to show the massive character of the stones forming the chamber—which deserves the term megalithic more than any other of the Arran structures. The great irregularity in the height of the chamber walls is again specially to be noticed.

Whether the trench between the lateral stones was ever subdivided into compartments, it is now impossible to say. In digging it out we came only on one transverse stone. It was lying inclined into the space



Fig. 9. Ground Plan of Chamber, "Giants' Graves."

between the second pair from the portal, and when levered up it fitted the interval between the ends of the third pair, where I have placed it in the plan.

The breadth of the chamber varies at different parts, from 5 feet at its

broadest, to 2 feet 7 inches at its narrowest. At the north end it is completed by a slab 4 feet broad, and standing 2 feet 2 inches above the floor, about 4 feet therefore below the tops of the side stones.

The soil in the trench was cleared out from the open end. There is no doubt it had been previously disturbed to some degree, and it is not possible to speak very definitely as to the position of the deposit. This consisted of great quantities of burnt bone, nearly all in small fragments, and along the bottom there was a charcoal layer. The bones were most numerous in the space between the two southern pairs of lateral stones, and lay especially thick along the sides of the stones, but there was no



Fig. 10. Group of leaf-shaped Arrow-heads from Chamber, "Giants' Graves."

regular arrangement. Nothing whatever was found in the northern half of the trench, and I suspect that the efforts of previous diggers had been directed to that part of the chamber. In the riddlings of the soil thrown out, four arrow-heads and three large flint knives or scrapers were recovered, as well as fragments of pottery.

The arrow-heads are represented in fig. 10. No. 1 is of light brown flint, is leaf-shaped, is $1\frac{1}{8}$ inches long, has a very long tapering point, and is finely worked and thin. No. 2, of the same colour and general character, is $1\frac{3}{8}$ inches long. No. 3 is more lozenge-shaped, but is also thin and finely worked, and of the same light brown flint. No. 4 is of whitish clear flint; it is a broadish leaf-shape, is $1\frac{1}{8}$ inches long, and

is less finely worked. The flint knife represented in figure 11 is $3\frac{1}{2}$ inches long by $1\frac{1}{8}$ inches broad, is made of light brown flint, and is slightly concave, being worked all over the convex surface. That represented in fig. 12 is of the same coloured flint, is $4\frac{1}{8}$ inches long and $2\frac{5}{16}$ inches broad; it is finely curved along both edges, is flat, and with the longer edge more completely worked. The third specimen (fig. 13)

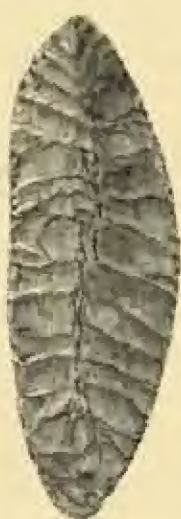


Fig. 11. Flint Knife, $3\frac{1}{2}$ inches long, from Chamber, "Giants' Graves."



Fig. 12. Flint Knife, $4\frac{1}{8}$ inches long, from Chamber, "Giants' Graves."

is also of light brown flint, is $3\frac{1}{2}$ inches long by $1\frac{1}{4}$ inches broad, and shaped to a fine curve along one edge, but the greater part of the surface has the natural 'skin' left untouched.

It is very unfortunate that the fragments of the pottery are so small in size and few in number. One fragment, without decorative pattern, and made of dark coloured ware, shows the flat rim characteristic of some Stone Age pottery, such as the urns found at Achnacree chambered

cairn by Dr Angus Smith, and like that figured on page 107 of my previous memoir.

A second fragment of the rim of a vessel (fig. 14) shows a chevrony pattern of impressed lines, making a design round the rim very similar to that on a vessel from the Pyrenees represented in plate iii. (No. 2) of my previous paper. Another fragment (fig. 15) of the side of a vessel shows a pattern of parallel lines drawn diagonally across each other over the surface; while still a fourth portion (fig. 16) of another vessel shows



Fig. 15. Flint Knife, 3½ inches long, from Chamber, "Giants' Graves."

a design of lines of squarish impressions placed parallel to one another, as if made by the teeth of a comb-like instrument.

It is not possible to say what the shape of these vessels may have been. No portion of a rounded under surface was recovered, and one fragment was undoubtedly a portion of a vessel with a flat bottom.

Thirty-three feet from the south end of the megalithic structure and 23 feet from the south end of the cairn, there is a short cist (fig. 8), lying open and rifled of its contents. It measures 5 feet long by 3 feet broad, the long axis lying north and south; the east stone is absent, and the north

stone has this peculiarity that it stands 2 feet 6 inches higher than its companions, forming a headstone, as it were. The depth of the cist, which contained only loose earth, is 2 feet 6 inches. Beyond this cist, and in a line with its west wall, is a stone 2 feet $4\frac{1}{2}$ inches long and standing 1 foot 9 inches high. A few feet east of this stone there is a small slab on edge, and another to the west, both set with their long axis east and west. Another large flag lies on its face to the south of the cist. I caused the space under this to be explored, in the hope that it might cover a short cist, but there was no structure underneath it. There is no very obvious explanation for the disposition of these stones, but it may be



Fig. 14. (actual size).

Fig. 15. (scale $\frac{1}{2}$).

Fig. 16. (actual size).

Fragments of Pottery from Chamber, "Giant's Graves."

that those placed with their axes in line with the breadth of the cairn, represent survivors of a series marking out the original outline of the cairn.

Sixty feet south of the large cairn is a smaller one, which measures 40 feet by 32. In this cairn there is a ruined and rifled cist. It is formed of several small flags placed serially. It is 8 feet long by 2 broad, the long axis running east and west. At the western end there is an upright stone, standing 4 feet above the ground. The east end is open. The narrow trench is not subdivided by septal stones, and contained only soil and stones, with no signs of charcoal or bones, and no relics were observed.

III. MONAMORE CHAMBER.

This structure stands on the high moor, about a mile to the south of the Monamore Burn. The ridge on the edge of which it is placed is

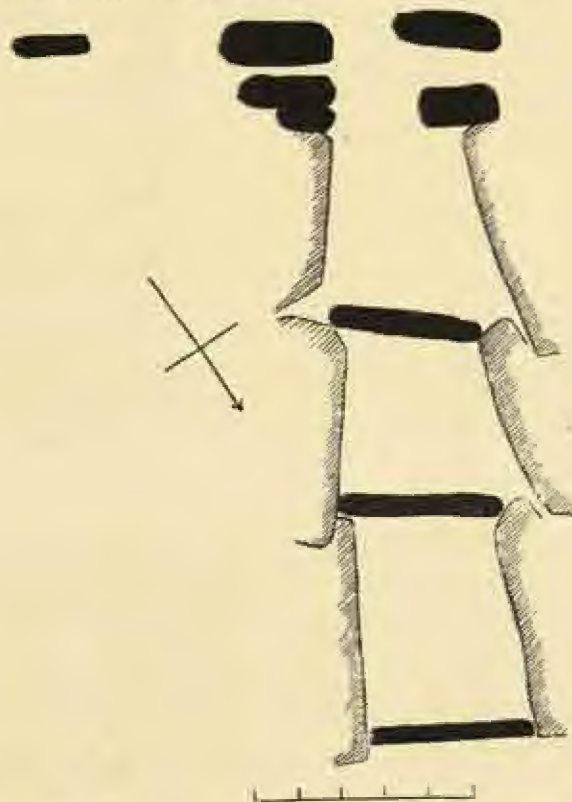


Fig. 17. Ground Plan of Chamber, Monamore Glen, Lamish.

400 feet above the sea, and forms the southern lip of the deep glen in which a small tributary of the Monamore Burn runs.

It has been much disturbed by some previous excavations, and merits only a brief description, though it is important in respect of the evidence it shows of a portal leading into the chamber (fig. 17). The limits of

the cairn are now unrecognisable. The megalithic structure is 14 feet in length, and its axis lies N.E. and S.W. It is formed of three pairs of lateral stones, and it is divided by septal slabs into three compartments. The northern end is in this case the closed end; the southern is open. Here three upright stones remain as the possible survivors of a larger series. Two of them form the side posts of a portal. The east stone stands 4 feet 4 inches above the level of the top of the side walls of the chamber; it is 2 feet broad and 10 inches thick. The west stone is 2 feet 6 inches broad, and 6 inches thick, and is lower than its neighbour, being only 2 feet 8 inches higher than the chamber. Three feet to the east is a third stone, 2 feet 6 inches broad, with its long axis standing in line with the two portal stones.

The height at which these stones stand above the chamber itself, the fact that the structure is placed on the edge of a ridge, with a flat surface in front of the portal, may suggest that in all probability the chamber was originally such a one as explored in the Carn Ban. If this were the case it must be concluded that all the superstructure has been removed, and only the deeper megalithic portion of the chamber left.

The soil thrown out was carefully riddled, but only a few fragments of pottery, and some chips of Corriegills pitchstone, were recovered in the way of relics.

The fragments of pottery are composed of dark ware, and show no decorative design. They are too small to permit of an opinion as to what may have been the shape of the vessel.

In the glen of the Monamore Burn a cairn is marked on the 6-inch map, close to an old sheepfold, a short distance above the mill. It is now practically obliterated, only a slight elevation marking the spot. There is nothing to show what may have been its nature, and no cist or megalithic structure now remains.

IV. GLENRICKARD CISTS, GLEN CLOY.

This megalithic structure stands close to the cottage called Glenrickard, on the open moor above Kilmichael House. It has been a

playground for generations of children, and, I was informed, has been dug into and disturbed more than once. I contented myself, therefore, with measuring and planning it (fig. 18).

The constituent slabs are considerably smaller than in most of the other structures of the class in Arran, corresponding more closely to the Torlin structure than to any other. The lateral slabs are, moreover, nearly on the same level, and the whole is rather a series of cists than a chamber. It measures nearly 20 feet over all, and its long axis runs nearly due north and south. At the south end are two small transverse stones, 2 feet and 2 feet 9 inches respectively, with a space of 7 inches only between their mesial edges—so that they cannot represent a portal. The ground plan shows the arrangement of the stones now standing above the present ground level; from this it will be clear that, though much disturbed, the structure has had the same general plan as the other structures described. The compartments are, however, smaller, the breadth of the third from the south end being only 2 feet wide by 3 feet 10 inches

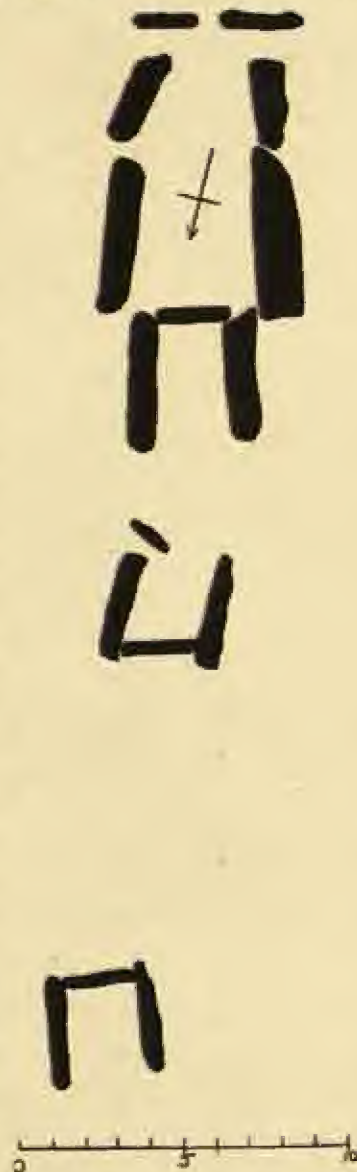


Fig. 18. Ground Plan of Cist at Glenrickard, Glenelg.

long. The gap of 2 feet 6 inches between this and the next cist to the north is difficult to explain. There is no sign of any intervening stones now present. Ten feet to the north, and set at a different angle, is another cist, 3 feet long by 2 feet wide. It has more the appearance of a short cist, but it is not carefully constructed, and the stones are not exactly on the same level, and there is nothing in the proportion of the stones to distinguish it from the cists of the main series considered separately. In the ruined state of the structure it is impossible to give an opinion as to its true nature, but it rather appears to me that in it we must see some secondary modification of the original type of segmented chamber.

On the moor between Glen Cloy and Glen Lag a Bheith, half a mile due east of the cists just described, a cairn called "Carn Ban" is marked both on the 6-inch and 1-inch maps. It has now been entirely removed, the site being marked only by a slight elevation, with some scattered stones on the ground level.

V. MONYQUIL CAIRN AND CISTS.

This cairn stands at the mouth of Glen Snidhe, near Monyquil farm. It has been largely removed in the reclaiming of the land round it, and now only one side remains (fig. 19). It measures 100 feet over all, with its long axis placed roughly east and west. The southern edge is straight and stands about 3 feet above the general level of the field; the north edge has been encroached on, and runs out in irregular fashion on to the ground level. The broadest part is now about 43 feet.

The special feature of the cairn which attracts attention is the arrangement at the N.E. and N.W. corners of a setting of stones as if to mark out the boundaries of the cairn (fig. 20). The corner stones are slab-like blocks, set rectangularly. The eastern limit of the cairn is marked by a line of similar slabs, but no such line now marks the western end. The south edge shows along a rather irregular line, and placed at irregular intervals a series of large blocks, which marks off

in a sense the limits of the cairn. I dug into the sloping edge to the level of this line, but did not find a continuous row of slabs or stones. I cannot speak positively as to the significance of this row of stones, but there is no doubt that the smaller flags shown in solid black in the plan represent the remains of a setting of flags marking the outline of the cairn.

Eighty-seven feet to the north of the cairn is a large standing stone, 8 feet above the ground, 3 feet 5 inches broad, and 1 foot 8 inches



Fig. 19. View of Cairn and Standing Stone at Moyyquill, from the South.

thick. If we suppose that the cairn was originally 60 feet broad, that is, of the same size as the Carn Ban in Kilmore Water and the cairn at Whiting Bay, the original distance of this stone from the cairn would have been somewhere about 60 feet. Now 50 feet to the west of the cairn is a large stone of much the same shape lying on its face. It measures 9 feet by 4 feet 6 inches. I made an opening in the ground and probed the space beneath it, and as I found no cist I inclined to the view that this was a fallen stone, possibly a second of a larger series, of which the single upright pillar is the only survivor.

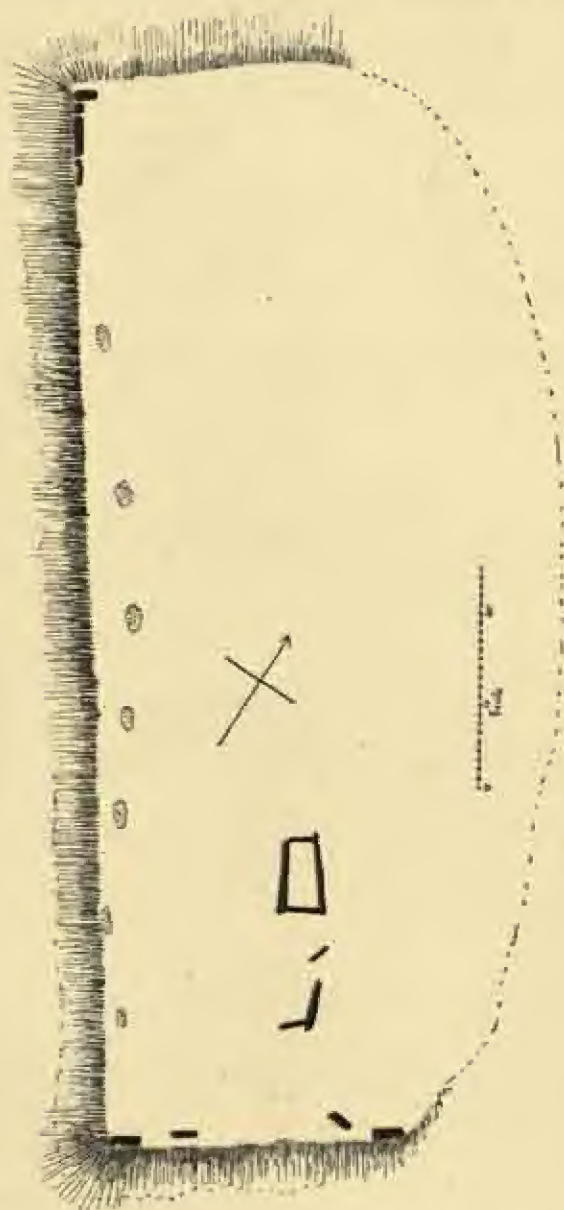


Fig. 20. Sketch Ground Plan of Cairn and Clota, Menyquil.

The excavation of this cairn was disappointing. Near the west end there are a number of large flags, arranged without order or symmetry, which I believe are stones thrown down here when the northern part of the cairn was demolished. At the east end there are the ruined remains of a series of cists, only one of which is now entire. It is 5 feet 5 inches long, by 2 feet to 2 feet 5 inches broad. The lateral stones are 5 feet long; the end stones are 2 feet and 2 feet 5 inches. The west stands 4 feet high from the bottom of the cist, the east only 2 feet 8 inches. The lateral stones are also unequal in height, the south being 4 feet 3 inches from its lower edge, the north only 3 feet. The unequal heights of the stones distinguish this from a single short cist, and to the east there are some displaced slabs which are the remains of a series in that direction. I take it therefore that this is an example of the segmented structure described in so many other cases, but none of the component slabs are massive like those of the "Giants' Graves" at Whiting Bay or the structure at Tormore.

No relics of any sort were recovered.

The excavations which I have detailed above are relatively poor in results as far as relics are concerned; and in the matter of human remains, the recovery of which was my primary motive, they are a complete blank; but the increase in knowledge of structural detail they have afforded is of much importance. Many features described in my last paper get now a satisfactory explanation, and we are in a position to realise what the original condition of this interesting series of monuments may have been. Before gathering together the data I must again refer to the Argyleshire examples.

A brief visit to Ford during the summer gave me an opportunity of visiting the cairns near Kilmartin at Largie and Kilchoan. These two structures, though similar in general plan, present certain features of difference in the roof construction.

The Largie cairn contains a chamber (fig. 21) to which there is no

passage of approach; access to the chamber is obtained by a low portal 3 to 4 feet above the level of the floor. This portal is seen in the photograph from the inside, through a blank in the south-west wall of the chamber. It is bounded by two upright stones. The south end is closed by a tall upright stone corresponding to the whole depth of the chamber. Its upper part is seen in the photograph, which is



Fig. 21. View of Chamber at Largie Farm, Kilmartin, Argyleshire, from the South.

a view from the south. The roof is formed of six large slabs of irregular shape, which rest on the upper edges of the lateral stones. Some of these are of sufficient height to reach from floor to roof, others are smaller blocks placed on edge, one above the other, while in other places the wall is formed solely of smaller flat slabs, placed horizontally and piled upon one another till the requisite height is reached. This feature is well seen in the photograph. The chamber is subdivided

by slabs set on edge, into four compartments, so that the ground plan is identical with the Arran structures.

The top sides of the septal slabs are placed from 5 to 6 feet below the roofing slabs. The walls do not converge towards the roof; the roofing slabs rest on the lateral stones when these extend the whole depth of the chamber, and in the intervals between these, on the piles of horizontal blocks, which do not overlap one another as in true chamber vaulting.



Fig. 22. View of Megalithic Structure at Kilchoan, near Kilmartin, Argyleshire.

The Kilchoan structure (fig. 22) forms an interesting contrast to the Largie chamber. It is built of irregular flags, placed opposite one another in series, and the intervening trench-like space is subdivided by septal slabs into compartments. These septal slabs are only slightly lower than the lateral stones, and thus, if the roof were absent, the appearance would be that of a series of cists placed end to end. The roof is formed of large flagstones, which are supported on stones placed outside those of the structure itself. Little headroom is left below the roof, but the space was probably sufficient to permit of entrance from

one end. It is further possible that, as originally built, there may have been some building of smaller stones to complete the walls.

Returning to the Arran structures, it is obvious that when the roof has been destroyed and the megalithic structure stands denuded, it is not possible to tell which method of roofing had been adopted; but it seems highly probable that the majority of the structures described in my former paper, and certain of these described in this, may have had an upper section of small flags piled or built up on one another to support the roof.

The Largie chamber differs from that in the Carn Ban only in one respect—that the building with smaller slabs placed horizontally is employed only in certain parts of the walls to bring them up to the level of certain tall stones which reach from floor to roof.

The Clachaig chamber, again, is closely akin to the Largie chamber in this respect, and in my last paper I referred to the possibility that there had been some kind of built roofing structure, on account of the large number of small slabs that were found within it. At Tormore cists there lie beside the chamber two large flagstones, and I referred to the difficulty of understanding how they could have rested on the tops of the unequal lateral blocks, and I suggested that accessory struts for their support, as at Kilchoon, may have been present. It seems to me now more probable that the structure represents merely the deeper part of the Kilnory chamber.

Close to the Slidery cists there is a standing stone which last year I was unable to account for. It now seems probable that it may be the survivor of a crescentic setting; and the upright stone placed at the northern end of the series of cists is doubtless the survivor of a pair of stones bounding the portal into the chamber.

There is some doubt as to whether or not the cairns had their outline marked out by a setting of flags like those of the northern series of chambered cairns, but the disposition of the small flags round the cairn at Monyquill, and also at the Carn Ban and Giants' Graves, suggest that some such arrangement originally prevailed in all.

Looking at the group of structures as a whole, in the Carn Ban of the Kilmory Water we have the prototype, and from its features and the data gathered by the exploration of the less perfect examples, we may with considerable confidence describe the structure in its typical form thus: It is a large rectangular cairn, with a definite ground plan marked off by a setting of flagstones. At one end this setting is disposed in a semicircle, and bounds a space leading to the portal of a chamber which occupies one end of the cairn. The chamber is formed of two sections,—a deeper, built of huge stones set on edge, bounding a trench-like space divided into compartments by septal slabs; and an upper, built of small flags placed horizontally. The object of this upper section is twofold: to afford head-room within the chamber, and to provide a level surface for the roofing flags to rest upon. The portal of access is some distance above the chamber floor. The compartments are vaults, in which the remains of the dead were placed, sometimes without cremation, sometimes after cremation.

I believe that most of the Arran structures which now stand denuded represent only the deeper megalithic section of the Carn Ban chamber, and that in the process of demolition the roofing slabs and upper built section have been taken away.

The upper built section may not in all cases have been so regular and complete as at the Carn Ban, for when any of the lateral stones were tall enough to reach the roof, building with smaller flags was employed only between them.

On the other hand, the Kilchoan structure proves that this method of supporting the roof was not always adopted, and it may be that the roofs of some at least of the segmented chambers may have been carried in the manner seen at Kilchoan.

The elaborate structural features of the perfect cairn, circle, and chamber bring the Arran type of sepulchral cairn into line with the chambered cairns elsewhere, but there are some special features peculiar to it.

There is no approach passage; access to the chamber is obtained

through a low portal placed some distance above the floor, and before the portal is a space bounded by a semicircular setting of upright stones. The chamber itself is invariably in part megalithic, and subdivided into compartments by complete septa placed opposite the ends of each pair of lateral stones.¹

The hypothesis that the cists may have been built in series as each became filled up, in the cases where the septal stones are on the same level as the lateral stones, is untenable in the light of the new observations, and there is no doubt that each of the megalithic structures was an elaborate sepulchral vault covered by a roof, which permitted access from time to time through a narrow entrance, and that it was covered in by a cairn of such a size as made the whole a stupendous monument, when it is considered how limited were the means at the disposal of these early people.

The character of the implements found during this series of explorations fully bears out the conclusions drawn from earlier work. The flint arrow-points are of the same leaf-shaped type; the large knives or scrapers, of the same material, are similar in their characters to those found on the other sites. No implements or objects of metal were discovered. At the Giants' Graves, Whiting Bay, a small oval piece of metal, probably silver, was picked up, smooth on one surface and with two ridges on the other. It is not like any modern object save possibly a sleeve-link, and as it occurred in a disturbed deposit, there is nothing to prove that it is ancient. In every situation save Monyquil, flakes or fragments of the greenish mineral identified as Corriegills pitchstone were found, and similar flakes were found in the Tormore cists last year. The regular occurrence of these in the deposits is curious. No implement or object made of this mineral has been seen, yet these broken fragments or flakes can hardly be regarded as stones occurring incidentally in the soil.

The pottery found is in such minute fragments that little can be

¹ A cairn with a chamber having in some respects a strong resemblance to the Arran type of structure is illustrated in *Archæologia*, vol. xv. (1806). It stood at Anna Clough, Mullen, in the parish of Kilsenny, Ireland.

determined regarding the class of vessel to which the pieces belonged. Some of the pieces found at Whiting Bay belong unquestionably to the class of vessel found on various Neolithic sites. They are composed of the same dark ware, and have the broad flat rim characteristic of certain examples of Stone Age pottery. There being no part of the bowl of a vessel, it cannot be determined for certain whether they were rounded in the bottom or not. Fragments of one vessel show that it had possessed a flat base, but there are too few pieces to permit of its reconstruction; and as the site was much disturbed, it cannot be confidently stated that it belonged to the primary interment.¹

It is not part of my purpose to give a complete survey of the Arran cairns, but I have visited, and I believe identified, all the sites of cairns marked on the 6-inch map, and have now described all those of the megalithic chambered class which I know to exist in such a state of preservation as to make a description possible. I may, in conclusion, refer briefly to three cairns marked on the map at the mouth of Sannox Glen. One is on the ridge above the "Rocking Stone," to the south of the glen. It is now entirely ruined, and there are exposed three rather rudely built but apparently short cists, which have long ago been rifled and broken down. They are arranged in line with one another, but lie several feet apart, and do not fall into the class which I have described above. In the mouth of the Glen, on the edge of the old sea-beach terrace, is the base of a large cairn of stones which has been encroached on all round by the ploughed land. No megalithic structure exists, and no cist is exposed. It is possible that all the stones of a chamber have been removed to the neighbouring dikes, or it may be that some-

¹ In a paper published in *The Reliquary*, vol. ii., 1896, to which my attention was drawn after my last paper was in print, Mr Hugh W. Young described fragments of pottery found at Rosside which in shape and ornamentation correspond with certain examples of the Neolithic pottery therein referred to. They were found along with stone implements, and among wood ash and charcoal, in two "remarkable pits," placed 18 inches apart from one another. The pits were 5 feet in diameter at the top and nearly 5 feet deep, were "lined with stones" and "built round apparently with rough stones." It is possible that these "pits" may have represented the remains of a "segmented structure" such as I have described.

where under the base a short cist may lie concealed. I judged that the prospects of finding such a cist undisturbed were so small, that the labour of turning over the whole area was not justified.

The third cairn in this district is placed on the north bank of the North Sannox Water, close to its mouth, and a short distance from the shore. It is a considerable mass of stones, standing 2 to 3 feet above the general ground level, nearly circular in shape, and about 20 to 30 feet in diameter. It seemed worth while to turn this cairn over, but as the weather broke down and stopped our work, I was unable to accomplish it.

CIRCLE AT AUCHHELEFFAN, KILMORY WATER.

On the moor above the farmhouse of Auchheleffan, 3 miles up the Kilmory Water from Lagg, there is a perfect little circle (fig. 23), consisting of four stones set exactly in the cardinal points of the compass. The stones are fairly regular, rectangular pillars of granite. The north stone is 3 feet 6 inches broad, 1 foot 10 inches thick, and stands 3 feet 8 inches above the ground; the south stone is smaller, 2 feet broad (14 inches thick) and 2 feet 6 inches high; the west stone is 2 feet broad, 1 foot 4 inches thick, and 3 feet 6 inches above the ground; the east stone is 2 feet 4 inches broad, 1 foot 7 inches thick, and stands 3 feet 4 inches above the ground. The area bounded by the standing stones is 16 feet in diameter.

As there was no record and no tradition of the circle having ever been opened, I spent a forenoon in digging within it. A hole sunk in the central point, to the hard undisturbed till, revealed no sign of a central cist. Four trenches were then cut from the central excavation to the bases of the pillars, but absolutely nothing was revealed. There were several large boulders in the soil. This was loose, and easily dug for 2 to 3 feet deep, but below that it was very hard to move the sub-soil, which had obviously never been disturbed. Our trenches were fully a foot deeper than the bases of the stones, which were embedded to the depth of about 2 feet, so that their whole height was approximately

5 feet. If this circle is not sepulchral, it is exceptional to the rule in Arran. I saw no other stones in the neighbourhood to indicate that



Fig. 23. Small Circle above Auchaleffan, Kilmory Water, Arran.

it belonged to some larger structure. Its nature and purpose must therefore remain a riddle, unless indeed it be that one of the intervals between our trenches, in which I satisfied myself there was no cist, contained a cinerary urn which we were unfortunate enough to miss.

MONDAY, 12th January 1903.

ROBERT MUNRO, M.A., M.D., LL.D., Vice-President, in the Chair.

A Ballot having been taken, the following were duly elected Fellows:—

WALTER B. HARRIS, Tangier, Morocco.

JOHN SCOTT, W.S., 13 Hill Street, Edinburgh.

The following Donations to the Museum and Library were laid on the table, and thanks voted to the Donors:—

(1) By Miss BORTHWICK, Langholm.

A Bronze Mortar, $3\frac{7}{8}$ inches high and $4\frac{1}{2}$ inches diameter at the mouth, having a flat circular footstand $3\frac{1}{2}$ inches in diameter, found in an earthwork on Milne Holm farm, Langholm.



Fig. 1. Bead of Blue Vitreous Paste, with spiral ornamentation, from Arnabost, Coll.

(2) By J. M. HOWDEN, F.S.A. Scot.

Bead of blue vitreous paste, 1 inch in diameter, with bosses of white spirals at regular intervals round the circumference (fig. 1), found at Arnabost, in the island of Coll. This bead is specially interesting, as being the only one of its kind hitherto found in Scotland. One of this type is described as having been found in connection with a very singular burial of part of a human body (only consisting of the pelvis and legs to the ankles, but with no traces of the feet or of the upper

part of the body) in a wooden coffin in the Gallo-Helvetian cemetery of Vevey¹ in Switzerland. With this singular interment there were found placed on the right side of the pelvis two fibulae of iron, of early La Tene type, a bead of amber, and a bead of blue vitreous paste, similar to this one. Beads of somewhat similar form have also been found with other interments of Early Iron Age in Switzerland: and others, not much differing from these, have occurred in the lake dwellings of the Bronze Age.

- (3) By RANFATYNE MACLEOD, I.C.S., District Magistrate, Cuddapah, Madras Presidency, India.

Eight Quartzite Implements of palaeolithic type, found on the surface in the valley of the Pennair river, Madras Presidency.

- (4) By C. R. B. M'GILCHRIST, F.S.A. Scot.

Birkhill: A Reminiscence. By a Liverpool Merchant. 8vo. 1899.

- (5) By the SOCIETY, through JAMES BARRON, F.S.A. Scot.

Transactions of the Inverness Scientific Society and Field Club. Vol. v. 1895-99.

- (6) By CHARLES W. DYMOND, Hon. F.S.A. Scot.

Worlebury: An ancient Stronghold in Somerset. Second Edition. 4to. 1902.

- (7) By Professor A. R. SIMPSON, M.D., F.S.A. Scot.

Antiquités Canariennes, par Sabin Berthelot. 4to. Paris, 1879.

Two Photos of a Cottage at Cawdor, Nairn, showing a Bogle, which is shifted to the other side of the door every night by the occupant, for superstitious reasons.

¹ *Anzeiger für Schweizerische Alterthumskunde*, Band iv. (1902-3), Le Cimetière Gallo-Helvète de Vevey, p. 23.

(8) By the AUTHORS.

A Trip to the Veddahs of Ceylon. By Dr H. M. Müller and Dr W. H. Furness, Philadelphia.

(9) By the MASTER OF THE ROLLS.

Calendar of State Papers, Domestic, 1st March to 31st October 1673.
 Calendar of State Papers, Colonial, 1689-92. Year Books, Edward III., Year xviii. Calendar of State Papers, Foreign, 1577-78.
 Calendar of the Patent Rolls, Edward III., 1343-45.

(10) By GEORGE F. BLACK, Public Library, New York.

Official Catalogue of the Tower Armories. By John Hewitt. 1859.
 Photographs of the Rosehill Collection.

There were also exhibited:—

(1) By the Right Hon. LORD LAMINGTON, F.S.A. Scot.

Cinerary Urn (fig. 2), with its contents, recently discovered at Lamington. The urn was found near the surface, placed with its mouth downwards over the heap of burnt bones. It is of the common cinerary type, with an overhanging brim, and stands 13 inches high, the diameter across the mouth being 11 inches the one way and 10½ the other. The lip is bevelled towards the interior, and is ornamented by a band of zigzag ornament running round the circumference on the inner and bevelled side of the lip. The overhanging brim is ornamented by a band of parallel lines of impressions, as of a twisted cord, crossing each other obliquely, so as to make lozenge-shaped spaces between the crossings. The band is bounded by a marginal line of the same character running horizontally round the circumference, just under the lip, and by another similar line, just over the lower margin of the overhanging part. Underneath this is a constricted collar, ornamented similarly, but with two zigzags crossing each other only. At the lower edge of the collar there is a slight moulding, below which the lower part

of the vessel is flower-pot-shaped and unornamented. The bottom seems to have been about $4\frac{1}{2}$ inches in diameter, but part of the flat bottom and of the lower portion of one side were broken away at the time of its discovery. The burnt bones, which were covered by the urn as it stood on its mouth, were sent to Dr T. H. Bryce, F.S.A. Scot., who reported that they belonged to the skeleton of an adult individual of delicate proportions, probably a woman.



Fig. 2. Cinerary Urn found at Lammington. (†.)

(2) By LUDOVIC M'L. MAXX, F.S.A. Scot.

Bronze Plaque of hexagonal form, but with two of the sides curved inwards, and the whole surface finely ornamented with interlaced work, found in Stoneykirk parish, Wigtownshire. The plaque (fig. 3) measures $1\frac{1}{2}$ inches in length by $1\frac{1}{4}$ inches in breadth, having a boss in the centre, and being divided into four quadrants by two bands, each about $\frac{1}{4}$ inch in width, traversing the middle of its length and breadth.

and intersecting at the central boss. A border of rather less width goes round the outline of the plaque, and both the border and the intersecting bands are ornamented with dots at regular intervals along the central lines. Each of the quadrants is filled with a complicated



Fig. 3. Bronze Plaque, with interlaced ornament, from Stoneykirk. (4.)

knot of interlaced work. The interlaced work has been cut into the bronze, the cutting of the bands being V-shaped in section, and the whole of the surface has been subsequently plated with gold.

The following Communications were read :—

I.

AN ACCOUNT OF A CHAMBERED CAIRN AND CREMATION CISTS AT TAVERSÖE TUICK, NEAR TRUMLAND HOUSE, IN THE ISLAND OF ROUSAY, ORKNEY, EXCAVATED BY LIEUTENANT-GENERAL TRAILL BURROUGHS, C.B., OF ROUSAY, IN 1898. BY SIR WILLIAM TURNER, K.C.B., LL.D., D.C.L., F.S.A. Scot.

In the month of May 1898 I received from Lieutenant-General Traill Burroughs, C.B., of Rousay, Orkney, a box containing some human bones and other objects which had been obtained whilst excavating a mound on his property of Rousay. From letters which General Burroughs has written to me, and from sketches made by himself and Mrs Traill Burroughs, I have compiled the following description.

The mound is situated on Flagstaff Hill, near his residence, Trumland House, and is known by the local name of Taversöe Tuick. It was about $4\frac{1}{2}$ feet above the natural lie of the ground on its lower or southern side, and about 2 feet on the northern or upper side. It was circular at the base and had a diameter of about 30 feet. The surface was overgrown with heather, but with grass at the apex, and the bulk of the mound was composed of loose stones and earth.

The excavations were begun in order to make a summer-seat on the mound to face the south, which commands a fine prospect, and to be protected from the north and east. With this object a wedge-shaped block was cut out of the south aspect of the mound, and as that did not suffice for the purpose required, the excavation was carried further into the mound at the apex of the wedge, in the form of a semicircle. A rough stone wall was exposed near the north face of the mound, about a foot below the surface. It was built of flat stones placed horizontally, with an upright flat stone at each end, and the ends were 4 feet apart. The stone to the west was 33 inches in height and entirely concealed in the mound; that to the east was 41 inches in height, and its upper end projected into the grassy covering of the mound for a few inches, but it did not attract attention until its continuity with the concealed part of the stone was observed.

The excavation was then continued to the immediate south of this wall, when three stone cists in close proximity to each other and to the stone wall were exposed. One of the cists was situated at the foot of the tallest upright stone. Unfortunately they had been broken by the workmen before General Burroughs saw them, so that their exact dimensions cannot be given. The cists are described as "small," and not more than from $1\frac{1}{2}$ to 2 feet in length and breadth, but the length rather exceeded the breadth. They were constructed of undressed flat stones, and the cover-stones were about one inch and a half thick. They contained fragments of whitened bones, which General Burroughs is inclined to think had been contained in urns lodged in the cists. The cists had been built on a layer of earth about a foot thick; when this was removed, the stone roof of an underground chamber was exposed 4 feet 3 inches below the surface of the ground. The two upright stones and the foundations of the wall discovered earlier in the excavation rested on the roof of this chamber at its northern end. As the excavation proceeded this chamber was more fully exposed. Its roof was formed of five large lintel stones, the long axes of which ran north and south. They rested on the end and side walls, and varied in length, as far as visible, from 4 feet 2 inches to 5 feet 2 inches, and in breadth from 2 feet 1 inch to 3 feet. The middle stone was broken; the two on the east side were entire; of the two westmost stones, one was cracked in two, the other crumbled into flakes and had to be removed. The stones forming the roof were massive flags, which varied in thickness from 3 to 10 or 11 inches.

The chamber itself (fig. 1) consisted of a central part and four recesses or alcoves—two at the north end, one at the east, and another at the west—and the flagstones just referred to roofed in both the body of the chamber and the recesses. The interior measurements of the entire chamber with its recesses were 12 feet in length, 5 feet 4 inches in width, and 4 feet 8 inches in height. The eastern recess was 4 feet 2 inches long by 2 feet 4 inches in width, and 2 feet 11 inches in height; that at the north-east was 3 feet in length by 2 feet 4 inches in breadth,

by 3 feet 5 inches in height; that at the north-west was 3 feet 6 inches in length by 1 foot 11 inches in breadth, by 3 feet 10 inches in height;

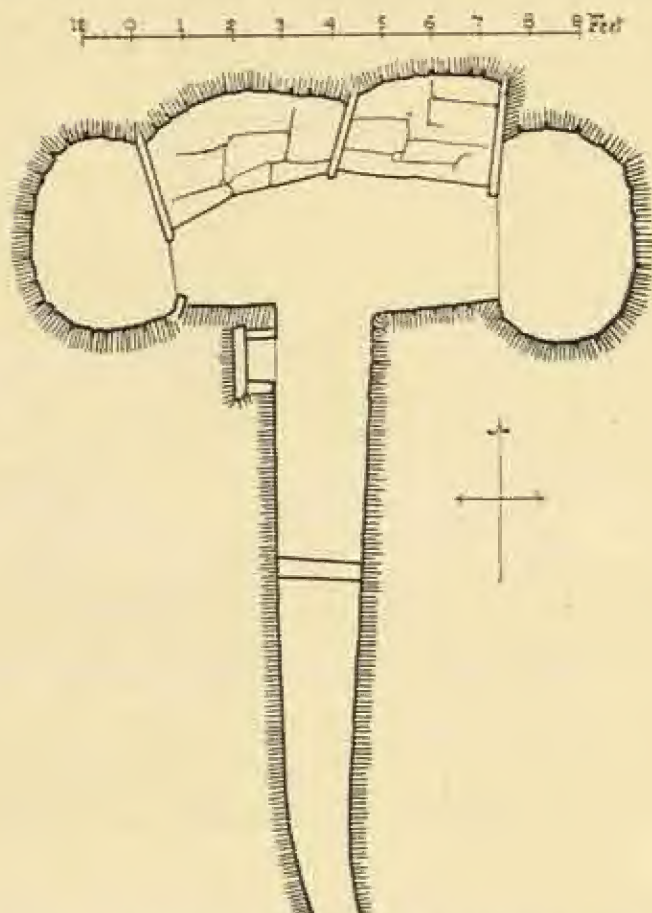


Fig. 1. Ground Plan of the Chamber in the Chambered Cairn at Taversöe Tuick, Rousay.

and that at the west was 3 feet 7 inches in length by 3 feet in breadth, by 4 feet in height. Each recess approximated in outline to a semicircle.

The stones which lined it were arranged so as to form a beehive-like alcove; passing horizontally across each recess and raised about a foot above the paved floor was a flagstone, which divided the recess into an upper and a lower compartment, both filled with dark greasy mud. The side walls of the chamber were built of flat stones, and similar flags formed its floor. A skeleton bent upon itself was found in the north-west recess. Fragments of a human skeleton were also found in the north-eastern recess. In removing the earth which had fallen into the chamber numerous pieces of broken pottery were found, so that several urns had probably been deposited there. There were no signs of cremation in the chamber itself.

The chamber at its south aspect opened into a long passage, which ran to the south face of the mound, and ended outside the mound about 15 feet from the interior of the chamber. The earth which concealed it was from 1 to 3 feet in thickness, and was covered by strong heather, so that there was no indication on the surface of the existence of the passage. Where it left the chamber it was 3 feet 9 inches high and 2 feet wide, and about 12 feet from the chamber it diminished to 2 feet 4 inches in height and 1 foot 9 inches in width, and it seemed as if it was continued into a passage smaller in all its dimensions, which General Burroughs speaks of as a drain. About 2 feet 6 inches from the chamber a small recess was found in the west wall of the passage about 1 foot 8 inches above the floor of the passage. The long axis of the recess, 2 feet 4 inches, was parallel to that of the passage, its breadth was 1 foot 4 inches, its height was 11 inches. It was bounded by an upright stone built into the wall, which did not project into the passage. This stone was 2 feet 3 inches in height, 2 feet in breadth, and 6 inches in thickness.

The walls of the passage were formed of flag-like stones placed horizontally, and the passage was paved with flags about $1\frac{1}{2}$ inches thick.

At about 13 feet 6 inches from the chamber a block of stone lay in its long diameter across the passage and fitted into the wall on each side.

It rested on the floor, and projected from it to the height of 12 inches. Its long diameter, so far as was visible, was about 1 foot 9 inches, and it was 1 foot in breadth. From its position it formed an imperfect barrier against entrance into the proximal part of the passage and the chamber. The narrow drain-like continuation of the passage was traced for a distance of 15 feet from the chamber, and gradually diminished in width and correspondingly in height. At the end furthest removed



Fig. 2. Half of a Hammer-head of Grey Granite found in the passage to the Chamber of the Cairn at Taversöe Tuick, Rousay. From a Drawing by Mrs Trill Burroughs.

from the chamber it bent somewhat to the east, but it has not yet been traced to its ultimate termination. Although drain-like in its mode of construction, it obviously could not have acted as a drain, as the stone barrier would have checked a flow outwards from the chamber.

Three heaps of bones, representing probably as many skeletons, were found in the passage between the chamber and the barrier stone.

Immediately to the south of the barrier stone the broken half of a hammer-head of smooth grey granite (fig. 2), about 2 inches in diameter,

was found, and not far from it a flake of flint, triangular in shape, which might have been used as a scraper. Somewhat further away from the barrier numerous broken portions of urns were seen on the floor of the passage, mixed with earth, black mud, and fragments of bone.

As the small cists found superjacent to the roof of the chamber had been broken by the workmen, and their contents in great measure scattered about before they were seen by General Burroughs, their exact condition before they were disturbed cannot, unfortunately, be stated in greater detail than has already been given. The specimens sent to me for examination were collected from at least two of the three cists, and in large part consisted of numerous fragments of bone, which from their greyish-white appearance, with, in some specimens, blackening of the cancellated tissue, and less frequently of the compact shell of the bone, had obviously been incinerated. Sometimes they were contorted, and had cracks extending into their substance. When struck, they had a metallic ring and were almost devoid of animal matter. As a rule, the fragments were so small as to make it impossible to state in most cases which bones of the skeleton they had been parts of, though many of them were, without any doubt, from the long bones of the limbs; two specimens were, from their size and markings, obviously sections of the thigh-bones, two others were parts of ribs, another was a portion of a vertebra, several flat fragments had belonged to bones of the head, and the terminal phalanx of one of the fingers was also fairly well preserved. They were undoubtedly human bones from an adult, or possibly more than one full-grown person. A fragment of the dentary border of an upper jaw-bone was also recognised, which, from the small size of the alveoli for the lodgment of the fangs of the teeth, was apparently that of a child.

Many of the fragments of bone were attached to or even embedded in nodular masses of hard vitrified slag, the surface of which not unfrequently was smooth and iridescent. Some of the nodules were broken across and found to be hollow in the interior, as if from the presence of air cavities. From their appearance one was led to think that during

the cremation of the bodies, so intense a heat had been generated that a slag had been produced, which had in many instances fused with the bones. Through the courtesy of Dr Leonard Dobbin, of the Chemical Laboratory in the University, an analysis of the slag has been made. It consisted of aluminium, calcium, magnesium, with small quantities of iron and potassium, and the salt radicals of phosphoric and silicic acids. As it required a bright yellowish heat to fuse the slag, it had obviously been originally produced at a high temperature.

Numerous fragments of broken pottery were mingled with the bones, so that the opinion formed by General Burroughs, that each cist had contained an urn, was without doubt correct. There can, I think, be little question that after cremation the incinerated bones had been deposited in an urn, which had been placed mouth downwards on a flat stone on the earthen floor of a cist of a size about sufficient to accommodate it. These cists were therefore cremation cists, and quite different in character from the short cists so frequently found in Scotland, in which an uncremated body had been buried in the bent posture. The urns had been broken into such small fragments that a restoration was impossible. The paste was unglazed and of a moderately coarse texture, and the outer surface was a light brick colour. Even the small fragments were proportionately heavy, so that there was probably a considerable percentage of iron in the clay which had been used to form the urn. I did not see incised lines on any of the fragments from the cremation cists.

In addition to the remains obtained from the cremation cists, General Burroughs forwarded to me objects lying in the underground chamber and the passage leading out of it.

As stated in the previous description, unburnt human skeletons were found in the chamber, one of which was bent upon itself, so that the chamber had obviously been used as a place of sepulture for unburnt bodies. It is greatly to be regretted that the bones which I received were so much broken, and the fragments, as a rule, were so small that it was impossible to reconstruct either the long bones or a skull. Fragments of at least five adult femora were recognised, which represented three

individuals; portions of tibiae, fibulae, and an astragalus and a clavicle were also fairly well preserved. The skull was that of an adult, but from its fragmentary state it is not possible to say whether the proportions were dolichocephalic or brachycephalic. The left half of the lower jaw was preserved, and the true molar teeth were all in place and worn flat by use. From the slenderness of the clavicle and the comparatively feeble muscular ridges on some of the long bones, I am disposed to think that at least one of the skeletons had been that of a woman.

The upper ends of two tibiae, though imperfect, showed distinctly the retroversion of the head of that bone which has so frequently been observed in the tibiae from Neolithic and Bronze Age interments, and the broken shafts had a moderate amount of platyknesia. In only one femur was the upper third of the shaft sufficiently entire to enable me to recognise the antero-posterior flattening known as platymery, a condition frequently seen in skeletons from these interments.

Fragments of bone obtained from the long passage were from one or more skeletons which had been cremated. The fragments had characters similar to those described from the cremation cists situated on the roof of the underground chamber. They were mingled with nodules of slag like those already described. There was no difficulty in recognising the human character of some of the incinerated fragments.

The pottery found in the passage was formed of a very coarse paste. The largest fragment sent to me, $4\frac{1}{2}$ inches in one direction by 3 inches in another, and about 1 inch in thickness, was obviously a portion of the base of an urn, without doubt a cinerary urn of some magnitude. Some other fragments (figs. 3, 4) in the possession of General Traill Burroughs showed the obliquely incised lines which are so common a decorative feature of this primitive pottery.

Both in the chamber and its passage stones were found which in part had fallen in during the excavation, and were of no archaeological interest. One stone has, however, attracted my attention. It is a flake, apparently, of sandstone, attenuated at one end into a sort of handle, and expanded



Fig. 3.



Fig. 4.

Figs. 3, 4. Fragments of Pottery from the passage into the Chamber of the Cairn at Taversöe Thick, Rousay. From Drawings by Mrs Traill Burroughs.

at the other into a hammer-like head. Its length is $10\frac{1}{2}$ inches and its greatest width $6\frac{1}{4}$ inches. The margins of the part which might have been used as a handle were comparatively smooth, and a hollow in one margin readily accommodated the thumb when it was grasped by the hand. It did not show any marks of chipping, as if made artificially, but was probably a natural flake, of convenient shape to be used as a tool.

II.

REPORT ON THE STONE CIRCLES OF NORTH-EASTERN SCOTLAND,
CHIEFLY IN AUCHTERLESS AND FORGUE, WITH MEASURED PLANS
AND DRAWINGS, OBTAINED UNDER THE GUNNING FELLOWSHIP.
By FRED. E. COLES, ASSISTANT-KEEPER OF THE MUSEUM.

The principal area surveyed during the autumn of 1902 is contained in the large district lying to the north of Inverurie, between Huntly on the west and Strichen on the east. It comprises several parishes; and the geographical distribution of the circles and of the other prehistoric remains, taken in contrast with each other, presents interesting points, and may come to offer fresh problems to the archaeologist.

Before proceeding, however, to more accurately define the limits of this area, there still exist several remains of more or less importance in the district to the south-west of Kintore—the district previously reported on as one so specially rich in megalithic antiquities. For these additional standing stones I am indebted to the observant care of Mr Frank Dey, whose assistance in this direction I have already partly acknowledged.¹ I gladly here make further acknowledgment, for the sufficient reason that although most of the sites are recorded on the Ordnance map of half a century ago, it was possible to be assured of their present existence only through his having actually verified them during the last twelve months. Mr Dey has thus rendered signal service towards the better

¹ *Processings*, LXXV. p. 230.

completing of the Report for this district, and at the same time saved our investigating party considerable expenditure of time and trouble.

The first section of this Report, therefore, will deal with the following—

I. ADDITIONAL SITES IN KINTORE DISTRICT.

No. 1. Nether Corskie.—In a flat, low-lying space, about three hundred yards south of the road going westwards from Waterton of Echt (see



Fig 1. Map showing additional Sites in the Kintore District.

map, fig. 1), stand the two stones shown in the illustration (fig. 2), the only remaining members of a circle of which no tradition now exists. They are unusually massive blocks of reddish granite, and are evidently the two pillars between which there once reposed a Recumbent Stone of about 10 feet in length. They stand almost exactly west and east of each other. The Westerly Pillar stands 12 feet 2 inches clear above ground, and its basal girth is over 13 feet. Viewed from either north or south, its form is pyramidal. On the edge facing west, at a height of

3 feet 3 inches, is a peculiarly distinct cup-mark, quite circular, $3\frac{1}{2}$ inches wide and $\frac{3}{4}$ of an inch deep. The other faces and the east edge are remarkably smooth and free from irregularities or weatherings. The East Pillar stands 7 feet 2 inches above ground, is very smooth and vertical on the south side, but rough on the north. It girths at the base just over 14 feet. It leans towards the east. The Stones stand 10 feet 2 inches apart, and their longer axes are in the same line.



Fig. 2. Remains of Circle at Nether Corakle.

This site is quite inconspicuous, being open to view only towards the S.E., and even there at no great distance. Its height above the level of the sea is about 360 feet.

No. 2. Back Fornet, Standing Stone.—The site of this fine monolith is on a field S.E. of the farm-steadings, 380 feet above sea-level, which slopes to the north, commanding an unbroken prospect in a N.N.-westerly direction, which culminates in the Mither Tap of Bennachie

(see fig. 3A). The Stone is of grey granite, is remarkably vertically set, and stands 8 feet 6 inches above ground. The roughly rhomboidal base girths 9 feet 6 inches, and its summit can scarcely be much less.

No. 3. *Wardes, Standing Stone*.—This oddly-shaped Stone stands within a few score yards of the main road near Burnside, on its west, and in a somewhat level field. It can boast of neither height nor dignity, being but 3 feet 5 inches above ground, and its base an irregular triangle, the sides of which measure 3 feet 7 inches by 2 feet 1 inch and 2 feet respectively. Its form is shown in the illustration, fig. 3A. Like

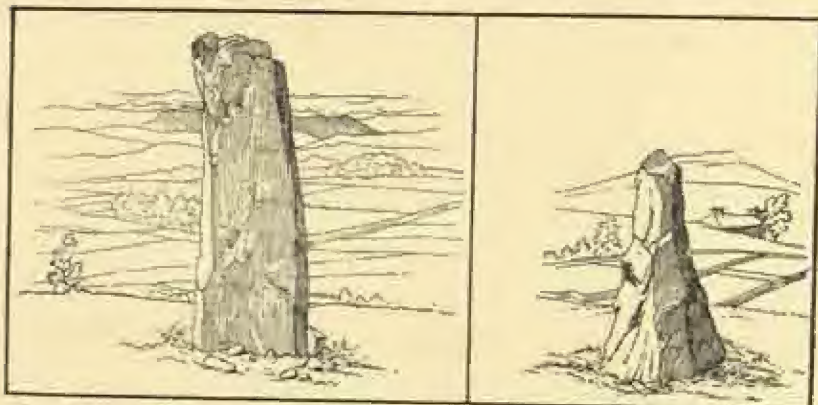


Fig. 3A. Back Fernet.

Fig. 3B. Wardes

numbers of these smaller stones, it is a shapeless block of blue whinstone, thickly veined with white quartz. The site is about 320 feet above sea-level.

No. 4. *Braneil, Standing Stone*.—This site, 500 feet above sea-level, is rather over two miles distant in a westerly direction from the last, and about one hundred yards to the south of an old avenue on the policies of Castle Fraser. It is difficult of access, both on account of the woody declivities of the near land, as well as because no public roads pass at all close to it. The spelling 'Braneil' occurs on an early nineteenth century map.

The monolith is a ponderous mass of whinstone, considerably rounded by the action of water. It stands exactly 6 feet above a small ring of soil, cleared to a level by the trampling of cattle, out of a fine old pasture-field, sloping northwards. Its girth at the base is 13 feet 3 inches, and at a height of 3 feet 2 it measures 10 feet 9 inches, its longest edge of 4 feet 8 inches, trends by compass 5 degrees east of north, and happens to point exactly to the Mither Tap of Bennachie. (See fig. 4.)¹



Fig 4. Braenail.

No. 5. *Woodend of Chury, Standing Stone.*—This grand monolith we saw at a distance during a former survey, but being pressed for time, passed it by. The site is near the centre of a pretty level tract (some

¹ The O.M. shows a Standing Stone at a point a quarter of a mile east of the farm-house of Scrape-hard, one mile S.W. of Buchan's School. I searched the ground—a small bit of moorland, full of granite boulders—thoroughly, but saw no stone which could ever have been mistaken for a megalith of the slightest interest to archaeology. Two of the aged inhabitants whom I questioned had never heard of one here.

of which is yet mossy land) to the N.W. of the north lodge at Castle Fraser, and it is distant from the main road going to Kemnay about four hundred yards to the north. It stands almost on the bank of the Ton Burn, and at the point where the parishes of Cluny, Kemnay, and Monymusk meet.

Taken in all its points, this Stone is one of the most imposing of any that have come under our notice. Its great regularity, the exactness with which two sides meet at a right angle, and the squareness and flat-



Fig. 5. Woodend of Cluny.

ness of its summit, go far towards suggesting the possible use of tools for its shaping. It is of fine grey whinstone (see fig. 5), a little rounded on the south corner, close to the ground, and projecting a few inches above the middle of the N.E. side, otherwise remarkably smooth and quite perpendicular. Its basal girth is 13 feet 4 inches, but at the height of 6 feet 3 inches it measures 14 feet 3. It stands 10 feet 8 inches clear above ground. Its longest axis points N.N.W. 30 degrees (M).

No. 6. *Luath's Stone, Monymusk*.—This Standing Stone also should have been observed during the surveys of 1900—the site being within a mile of the fine Circle at Whitehill.¹ The weather then hindered

¹ Described in *Proceedings*, xxxv. p. 204.

us; and it almost seemed as though the same inclement conditions had leagued themselves against us on this occasion, since we were storm-stayed for several hours amongst the hospitable folk living at Mains of Whitehouse, so here we obtained careful directions as to the locale of the Stone. We also heard that it went sometimes by the name of Macbeth's Stone. The site is amongst the heather and short moorland grasses of one of the upland sheep-pastures of Whitehouse, at a height of 1050 feet above sea-level, and the monolith must be easily seen from



Fig. 8. Laath's Stone.

the higher hills of Corrennie to the south, though it is enclosed on the north and west by an abrupt brae-face of rock and heather.

Laath's Stone (see fig. 6) compares well with the last monolith described—indeed, they are very similar. Owing to density of lichen-growths, it is difficult to be sure of the mineralogical nature of the Stone; it appeared to be a diorite, grey, finely-grained, and having numerous narrow veins of white quartz running nearly vertically through it. The setting of the Stone is approximately vertical; the height at the W.N.W. angle is 10 feet 2 inches, from which there is a fall N. and eastwards of about 14 inches. The bulkiest portion of the Stone is at a line about 6 feet 9 inches above the ground, where it

measures close upon 12 feet ; at the base the girth is 9 feet 7 inches. The east face is the broadest, one portion of it measuring 4 feet 3 inches across.¹

No. 6. Conglas, Standing Stone.—This Stone was discovered by my daughter Muriel, as we returned, at dusk, at the close of one of our long drives into the Auchterless district, in September last. At several points, on both sides of the river Ury, between Inverurie and Inveramsay, there are solitary monoliths.

Most of these on inspection proved to be so small, and so devoid of interest, that they are omitted here. The Standing Stone at Conglas is



Fig. 7A. Conglas.



Fig. 7A. Congalton.

an exception. It stands in a field sloping down to the N.E., just opposite the farm-steadings, and on the west of the main road, and its height above the level of the sea is about 240 feet.

This stone (fig. 7A) is a rudely pyramidal mass of syenite, veined with quartz ; it is set vertically upon a base considerably less in girth

¹ As to the name, *Lnath*, of course, was the name of the hound of Cuchullin. I do not at present know if there are other Standing Stones associated with it. But the same name occurs in Burns' poem of *The Two Dogs*, and it is instructive to note that the Lowland Poet must have known the correct Gaelic pronunciation was *Lnu'*, for the name rhymes with "you are."

than its middle, the one measuring 8 feet 5 inches, the other 10 feet 7½ inches. It seems to be firmly propped up with many small stones. Its extremely sharp apex is 5 feet 7½ inches above ground.

A diagonal line nearly bisecting it points N.N.W. by compass directly to the Circle at Balquhain,¹ which is about 1½ mile distant.²

No. 8. Congalton, Standing Stone.—This monolith was espied at a considerable distance on our right, during a drive to the Walls of Ythan, as we neared the Kirkton of Rayne.

Not, however, being absolutely certain as to its site, size, and other features, its investigation was put into the hands of my son Cecil, from whose sketch and measurements the adjoining illustration (fig. 7a) and description are compiled.

The site is on the crest of a hill sloping northwards, between its verge and a fir plantation on the south, distant from Wartle Station about one mile, nearly due west, and almost directly midway between Congalton and Cushiestown. It is not marked on any map. In the dike surrounding the plantation are several great blocks somewhat similar in form and size to the Standing Stone. These being not many score yards distant from the stone, suggest the probability of their having once formed portions of a Circle, of which it seems to be the last surviving member.

The composition of this stone is grey granite. It stands erect on a base of 5 feet 7 inches in girth and is 5 feet 1 inch in height.

Of the eight sites thus noticed, the first six are all indicated on the Ordnance maps; but the last two are additional, having been put on record during the past year. They are, however, not shown here in a sketch map, for the simple reason that they are too isolated; but their sites may be easily identified by the above descriptions.

¹ Described *Proc. xxiv.* p. 231.

² Before quitting this district, I may note, in passing, the big boulder that goes by the name of *Girnigoe*, or *Orinigo Stone*. It is, I think, an ice-poised boulder of whinstone, nearly 6 feet high, and roughly rhomboidal in contour, and stands on the common of Old Meldrum. In local histories it has a traditional association with a battle between Bruce and the Comyns.

II. SITES INVESTIGATED DURING SEPTEMBER 1902.

The district surveyed at this date is comprised within a space of 26 miles in length by 13 miles in breadth, but its boundaries are so irregular that the actual area amounts to only 170 square miles. Its greater dimensions extend from Ellon in the extreme S.E. to Rothiemay in the N.W. It contains two sites lying to the east of the River Ythan in Ellon, but its most important remains are in the parishes of Rayne, Eyvie, Auchterless, Forgue, Inverkeithny, part of Turriff, and a small



Fig. 8. Map of District surveyed in 1902

portion of Forgue. Considerable parts of the district possess no circles or remains of circles, but instead there are cairns. For example, to the south of a line eastwards from Hallgreens (see Map, fig. 8)—a strip 13 miles long by 3 wide—the only extant remains are five cairns, the Candle Stone of Ellon, and the one stone still marking the site of the Circle at Schivas. To the N.E. of the same point, Hallgreens, throughout 16 square miles we have only the stone at Monkahill (known as the remnant of a circle), one tumulus (near Tifty), and one cairn. Again, westwards, and to the north of Auchaber, is another and still larger

space of 36 square miles, in which the only relic now preserved is the small but interesting Circle at Raich; while, south of the river Deveron, near Turriff, there are no remains whatever in about 16 square miles.

Points of peculiar interest may naturally, therefore, present themselves in the future when the geographical distribution of the Circle and of the Cairn comes under consideration.

In the meantime, let it be sufficient to note that not only the paucity of the megalithic remains throughout this extensive district, but the poverty of many of those that do still exist, are due to the closely cultivated condition of the lands here. I am not sure if, indeed, a vein of superstition also may not have influenced some tenants; for in some instances, presently to be noticed in due course, rather than *utilise* the stones of a circle, the farmer has been at considerable labour to remove them bodily into one amorphous heap, so that, at a little distance across the fields, a dark object, looming up against the sky-line like a cairn, resolves itself on a near approach into an irregular group of huge stones strewn around the immovable recumbent stone. At more than one farm the naive admission was made that no one had "liked to build with those stones."

But, as on former occasions, we also met with tenants who took a real pride in the circles, and who rendered ready assistance both in the matter of measurements and in giving information.

The first site¹ to be recorded for the new district is—

No. 9. *Candle Stone, Ellon*—(fig. 9)—in the extreme S.E. corner of the Map (fig. 8).

Reference has already been made² to the fact that four sites in this part of Aberdeenshire bear this name 'Candle.' What its designation may mean is not at present, I think, ascertainable; but one thing seems

¹ The plans of the larger circles following are shown, as hitherto, on a scale of 20 feet to 1 inch, but some of the smaller circles are shown on the scales of 15 and 9 feet to the inch.

² *Proceedings*, xxxvi, p. 549.

pretty clear—that is, that the word *Candle* has nothing in common with the English *Candle*; there can be no likeness supposed between the shape, *e.g.*, of this Standing Stone, or of any other on any of the sites bearing the specific epithet, and the shape of a candle.

The Candle Stone of Ellon is situated 87 yards west of the road between Mains of Drumwhinlle and a smithy on the road running southwards to Kin-harrachie. It is a conspicuous landmark for a fair distance on all sides but the west. It is set nearly vertically on a



Fig. 9. Candle Stone, Ellon.

somewhat level space, but not on the highest part of the field, which here has a gentle declivity eastwards. Its greatest height, almost exactly central, is 10 feet 2 inches. Its girth at the base is 15 feet 3 inches; at a height of 5 feet 4 inches it measures 15 feet 3 inches also; but at 3 feet above ground swells out very considerably, so as to give a girth of nearly 18 feet.

No. 10. *Mill of Schivas Wood*.—About two miles to the N.W. of the Candle Stone is the site which—once that of a circle—is now marked by one stone partly utilised in the line of a dike which skirts the woodland. To the south of this, on the very verge of the same wood, are

also the hardly recognisable remains of Cairn Fedderat; at which, long ago, a stone cist was found.

The site of the Circle is at the north verge of the wood, and the relative position of this one stone to it may be seen by reference to the plan (fig. 10) made from the Ordnance map. The site is 141 feet above sea-level. The Circle must have been about 90 feet in diameter. The

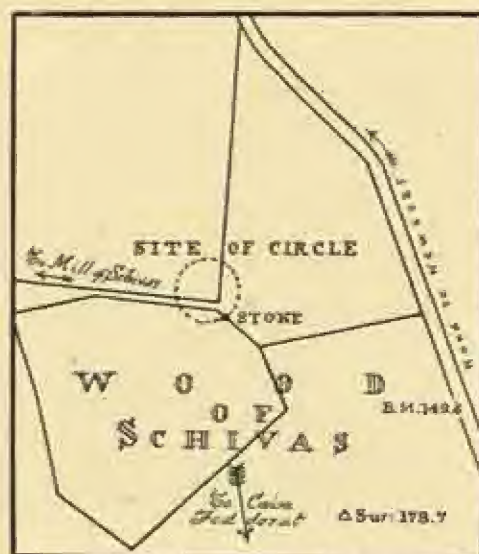


Fig. 10. Mill of Schivas Wood.

Stone is a rather rugged mass of whin, nearly vertical on its north side, but irregular elsewhere. The base measures 5 feet by 3 feet 2 inches, and the greatest height is 3 feet 10 inches. It stands so that its longer axis trends N.N.E. by compass.

In the annexed illustration is a view of this Stone from the east (fig. 11).

No. 11. *Tow Stone*.—This stands on the farm of Knowley, not many hundred yards distant from the site of a circle once known to exist at Tocher-

ford, already noted.¹ The site is on a field sloping somewhat steeply southwards, at a height of 500 feet above the sea. Though over 6 feet in



Fig. 11. Remains of Circle Schivaa.



Fig. 12. Tow Stone.

height, this Stone (fig. 12) is slim, girthing only 5 feet 4 inches at the base and 6 feet 5 inches at the top. Its longer axis points north by

¹ In the Report for 1901, *Proceedings*, xxxvi. p. 577.

compass, and a line bisecting its summit would lie between the Mither Tap of Bennachie and a point 30 degrees N.N.E. The nature of the stone is reddish granite, rough and channelled, and it is situated about 70 yards below the summit of the gentle eminence into which these fields rise.

We could derive no guess at or explanation of the name by which the Stone is known, and by which it is also recorded on the O.M., but with no further descriptive title.

No. 12. Crichton and Fedderat Stones.—Under this somewhat *bizarre* title the O.M. records the positions of two stones in a field on the summit of the hilly ground (near which stands the Tow Stone), and to the north-east of the wooded Hill of Rothmaise, at an altitude of over 800 feet above sea-level.¹ We visited this site in the afternoon of the same day on which the Tow Stone was examined—one of the hottest days on record for this season—and, after undoubtedly reaching the exact field, searched among its long and luxuriant herbage, but could find no fragment of stones prostrate in this heavy growth. On our return to the station at Wurtle, we looked in at the farm of Tocherford, where, on inquiring for these stones, we were favoured with the following particulars:—That for ages there had stood two tallish stones in the field which we had just searched; that some years ago one of them had been thrown down and rolled away northwards down the hill and used in the dike near the mill, and that the other, which had for some time previously lain broken and prostrate, was still lying near its original site; it was quite likely very difficult to find, owing to the heavy growth of grass. Deeming it needless to spend further time in search of a mutilated stone not in its original position, any probable further investigation of this site was postponed. Owing, however, to the extremely broken weather, which interfered with the progress of our survey, the opportunity of revisiting this site never came.

¹ The stones are not marked in O.E. lettering, and a space of 300 yards separates them, as shown on the map. They stood N. and S. of each other, and the Crichton Stone is just 300 yards W. of the march between Fyvie and Rayne.

No. 12a. Hallgreens.—The remnant of a Circle is marked here on the O.M. in a field west of the mill-dam about 220 yards, and, such as it is, may still be seen. This is one of the instances referred to in my prefatory remarks, in which the stones of a circle have been removed and huddled together in an ugly heap, so as to be out of the way of ploughing. At this site there are two large stones; one, lying on its side, measures 6 feet by 4 by 3 feet 2 inches, the other measures about 4 feet 6 inches by nearly 3 feet by 2 feet 3 inches. Various smaller stones lie about close to these.

No one about the premises seemed to know or care in the least about this site.



Fig. 13. Logie Newton: general Plan of the three Circles.

No. 13. Logie Newton.—On the lands of this farm and in its neighbourhood there were many more or less interesting relics of the pre-history of this part of the Scottish area. The three Circles now to be noticed claim first attention. They lie at the 700-foot contour, a space below the summit of the Kirk Hill, at a point some $3\frac{1}{2}$ furlongs N.W. of the farm-house. The first feature arresting the observation in these circles is that the stones composing them are almost exclusively of pure brilliantly-white quartz. The next point is that each Circle is quite small, and that in the easterly one (see general plan, fig. 13) the comparatively small space is well-nigh crowded with stones. The three Circles do not lie in one direct line; but, as shown in the general plan, the third or westerly one is set at an angle to the line which bisects the other two. The length of the space thus occupied by the

three circles measures 132 feet by 44 feet. There is a space between the verges of the easterly Circle and the middle Circle of 35 feet, and between the verges of the middle and the westerly one of 32 feet. The diameters differ slightly. That of the easterly Circle is 18 feet 6 inches, of the middle 22 feet 9 inches, and of the westerly about 21 feet. In each case the Standing Stones are set upon a fairly well-defined ridge, but this ridge in the westerly Circle loses its form in the general swelling of the cairn-like low mound constituting its centre.¹

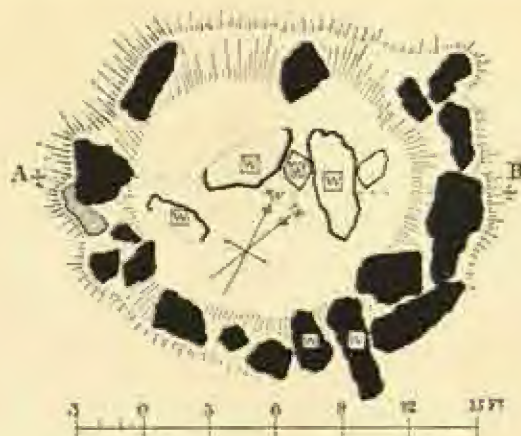


Fig. 14. Logie Newton : East Circle.

When examining each Circle more in detail (see fig. 14), the plan will afford help in distinguishing the blocks of quartz from those of whinstone. Thus it will be seen that out of the total of twenty-three stones now comprising this Circle, seventeen are of quartz. The remainder, of whinstones, occupy such a position and shape as to suggest the proba-

¹ Besides the three Circles, the O.M. shows, with the usual symbol for an antiquity, the site of what is called *Longmuir's Grave*, at a point about 385 yards to the west of the west Circle in the group. On speaking to Mr Cruikshank of this, I was assured there was merely a bigish stone, prostrate and difficult to find, close on the boundary between the parishes of Auchterless and Fergie.

bility that they may be the covering-stones of interments. None of the stones in the circle is in the least conspicuous for height, the two highest (at the east and west areas respectively) being barely 4 feet above the ground. (See the sections, fig. 17.)

The chief point of difference between the easterly Circle and the middle one is, that near the centre of the latter there lies a massive, somewhat

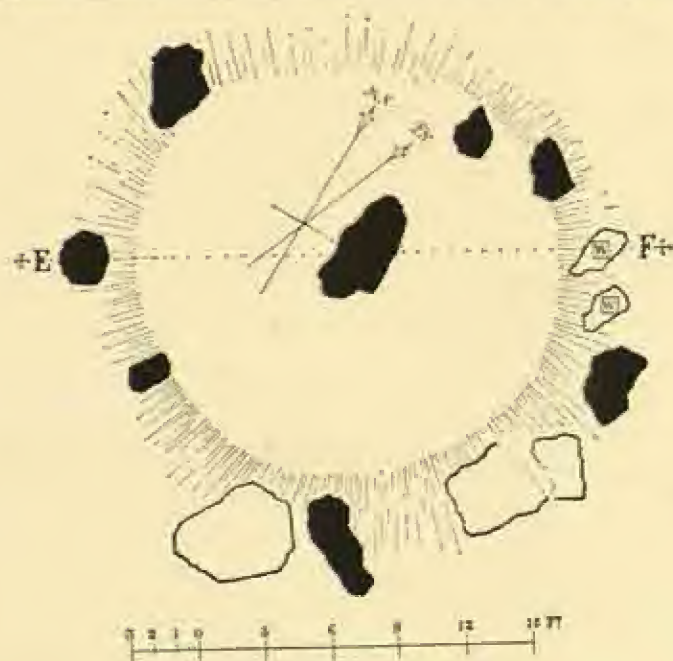


Fig. 15. Logie Newton; Middle Circle.

oblong block of quartz, in lieu of the flat and thinnish whinstone slab at the crest of the former (see fig. 15). The position of this Stone is such that its longer axis trends due north by compass. Around it there are the eleven other Stones shown, of which eight are of quartz, two very small (at F) of whinstone, and two large blocks lying prostrate (outlined in plan) on the S.E. arc. One of these is broken.

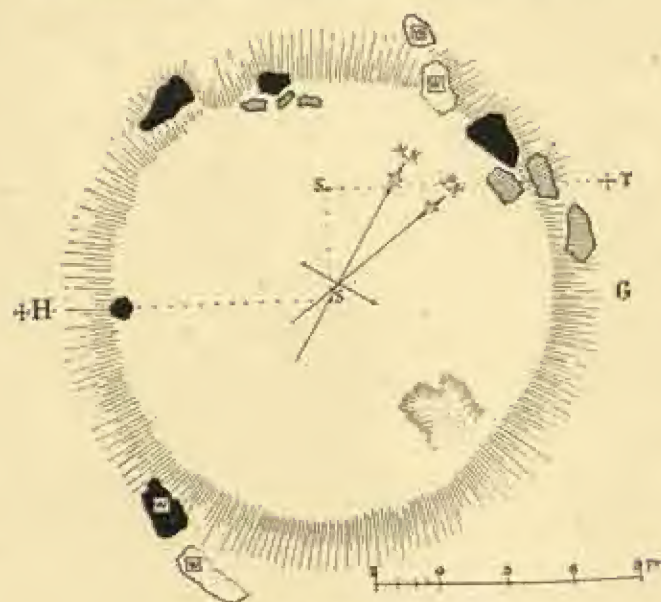


Fig. 16. Logie Newton ; West Circle.

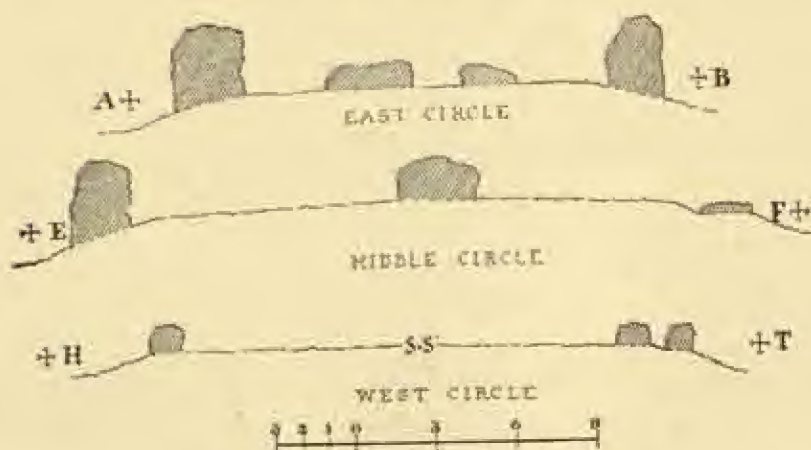


Fig. 17. Logie Newton ; Sections of Circles.

Of the condition of the westerly Circle little need be said, as few large stones now remain on its verge, and its interior has the appearance of being little disturbed. Near its S.E. arc (see fig. 16) is an irregular cavity, which I presume to be the site of one of the greater stones, possibly of the one which, in the elder Mr Cruickshank's occupancy of the farm, was "removed from one of these circles and set up in the field on the west of the house, to mark at that spot the discovery of an urn containing human bones." There the stone still stands, and the



Fig. 18. Upperthirl; remains of Circle.

record of it on the Ordnance map, being Standing Stone in plain lettering, is thus satisfactorily accounted for. The only subject for regret in this connection is the fact that the urn, instead of being preserved, was allowed to get broken, and pieces were given away to curious friends.

No. 14. Upperthirl, near Logie Newton.—This site is one mile E.N.E. distant from the farm-house of Logie Newton. The O.M. marks one stone on the southern circumference of a circle about 80 feet in diameter, but pays heed to no others. The present condition shows two large stones within 4 feet of each other,—a discrepancy not to be accounted for. These huge bulky masses of extremely rugged whinstone (see fig. 17)



stand E. and W. of each other, and the longer side of the tall stone trends N.N.W. and S.S.E. Its vertical height is 6 feet 9 inches. Its basal girth is 17 feet $8\frac{1}{2}$ inches. The lower stone is 4 feet 7 inches in height, its two longer sides measure respectively 7 feet and 6 feet, and its ends 4 feet 6 inches and nearly 4 feet. It is probable, therefore, judging by its shape, that this stone was once erect. Whether it constituted the east pillar with its neighbour as Recumbent Stone is conjectural.

No. 15. West Haugh.—At the date of the Ordnance Survey six stones remained of this Circle, which measured about 76 feet in diameter. But inquiries at Logie Newton resulted in the information that all these stones were destroyed several years ago. The site was about $1\frac{1}{2}$ mile east from the circles on Logie Newton.

No. 16. Burreldales.—The site of what must have been externally one of the most peculiar circles in Aberdeenshire is nearly due west of the farm-house, and but a few score yards distant from it. On the O.M. it is drawn as a circular space, divided into five flat portions by four ridges traversing it N. and S. On approaching the spot, it became obvious that very recent and very thorough destruction had taken place. All that now remained was a circular space measuring on the ground-level about 130 feet in diameter, traversed nearly N. and S. by five strips of broken-up stones.

These rows of stones, varying much in size, shape, and composition (but no doubt all alike usable as road-metal), were about 4 feet in breadth, 2 to 3 feet in height, and their interspaces measured from 9 to 14 feet in width, the three widest being in the central space.

No. 17. Burreldales, Rappla Wood.—I retain this double name in order to distinguish the last described site from that now to be noticed, which was recorded¹ under the farm-name of Burreldales so long ago as 1862. The two sites are not half a mile apart. As above observed, the utterly ruined Circle close to the farm was a markedly peculiar specimen, and we may use terms almost as definite regarding the former state of

¹ *Proceedings*, vol. iv. p. 429, and x. p. 434.

this also now ruined site as described by Mr Chalmers. In order to make his words more vivid, I have ventured upon constructing a diagrammatic ground plan and section (see fig. 19).

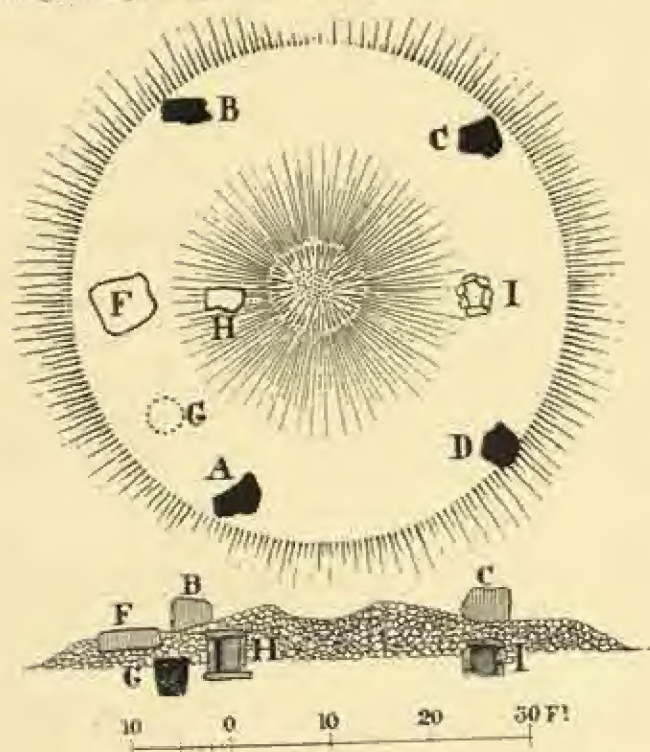


Fig. 19. Diagrammatic Ground Plan and Section of Circle at Rappla Wood, Barreldaes.

There was first a low circular platform of stones about 50 feet in diameter. On it stood four (or five) rude blocks of whinstone. Only one of these, B on the plan, now remains. Within the circumference marked out by these Standing Stones, the stony platform swelled up into a low cairn, which had a hollow in its centre. Up to this point the similarity between this Circle and the larger one in Whitehill Wood,

Monymusk, formerly described,¹ is very striking. Mr Chalmers does not express a decided opinion about the hollow in the central portion; it was probably very difficult to do so; but at any rate no central setting of cists seems ever to have been found here, like that in the Monymusk example. Nearly at the west point (F on the plan) lay a great flat slab, nearly 5 feet square and 2 feet thick. Apparently nothing was found directly beneath it, but at H there was a neatly-built cist, containing (if the farmer's observation were correct) three urns; but this seemed very uncertain, as Mr Chalmers, on seeing the fragments at a later date, stated

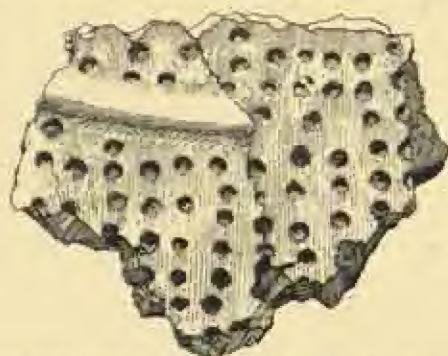


Fig. 20. Fragment of Cinerary Urn found in Rappla Wood Circle, Burreldales.

there were not more than enough to compose one urn. To the south of the great 5-foot slab there was found (at G on the plan) a circular pit, dug partly down into the subsoil; it was not protected at the sides by any built-in stones, but a thinnish slab covered its mouth. On the east side of the platform of stones (I in the plan) there was an irregularly shaped cavity, loosely walled in with stones bigger than the bulk of those that composed the body of the Cairn and platform. In this were found small fragments of flat bronze, which, when pieced together, fitted so as to form part of a blade of the type frequently associated with interments of the Bronze Age in Scotland.²

¹ *Proceedings*, xxxv. p. 294.

² See Anderson, *Not. in Fagan Times*,—*The Bronze and Stone Ages*, p. 58.

Of the precise variety of urn (or urns) found in the cist, it is unfortunately now impossible to speak with certainty. But, along with the bronze fragments, Mr Chalmers sent to the Museum a fragment of a cinerary urn (fig. 20), which, until quite recently, stood alone in the National Collection, on account of the peculiarity of its decoration. The rows of somewhat deeply impressed holes on the outer surface of this fragment are formed by the flat end of a cylindrical bone implement, or possibly of the stalk of a plant. Markings identical in style and size occur also in one other urn in the Museum.¹ It is one of three found in a cist at Dunera Hill, and presented in 1900 by the Earl of Hopetoun.

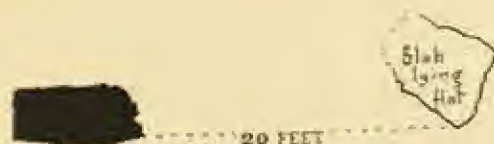


Fig. 21, Rappia Wood; Plan of remains.

Apart from the relics discovered, the archaeological interest of this Circle at Rappia Wood centres in the fact of there being three, or probably four, different forms of interment within it.

All that now remains of these structures may be seen in the next two illustrations (figs. 21 and 22), the first showing a plan of the last remaining Standing Stone (B on the plan) and a good-sized slab lying flush with the ground at a point 20 feet to the east, the second drawing being a view of this Standing Stone (fig. 22). My regarding this stone as being truly the one which occupied the N.W. angle of the space marked out by the four stones noted by Mr Chalmers is not merely conjectural.

We were fortunate enough, later on in the same day's exploration, to meet with an aged crofter (at Rappia Burn), who, in the course of conversation, told me that he had assisted in the clearing away of this Cairn

¹ *Catalogue*, RE 82.

Circle, and that the greater space of the Circle lay to the south and east of the remaining stone.

The stone seemed to be of a rough, large crystallized syenite, very rugged in contour, and veined with whitish quartz. Its full height is 5 feet 8½ inches and its basal girth 10 feet 10 inches.

No. 18. Rappla Barn.—Three-quarters of a mile to the west of the last site there lie five stones, placed by the misguided labour of some bygone tenant into a shapeless group near the summit of the fields



Fig. 22. Rappla Wood : View of remains.

here. One of these huge whinastone blocks is much larger than the others. Its dimensions are, length about 8 feet, breadth 5 feet, and thickness 3 feet. It is possibly the now prostrate Recumbent Stone. The stone next in point of size measures about 5 feet by 4 by 2 feet 6 inches; two others are about 3 feet by 2; and the fifth is quite a small stone in comparison. They all occupy a space of about 16 feet long by 7 or 8 feet wide, and they are all of whinstone, quartz-veined.

Stopping to make inquiries at one of the two or three cottages at Rappla Barn, we learned that on an upland field on Darley several years

ago there were beads dug up, together with some other relics, the precise nature of which my informant could not properly describe.

Concerning the next four sites designated on the O.M. as remains of circles, it is my unpleasing duty to record that nothing now remains. The first was at—

No. 19. *Hillhead, Forgue*,—about $1\frac{1}{2}$ mile S.E. from the church at Ythan Wells.

The next was at—

No. 20. *Stonehill*,—about $1\frac{1}{2}$ mile N.W. of Hillhead, and west of Logie Newton about $2\frac{1}{2}$ miles.

The third and the last in this Forgue district was in the wood at—

No. 21. *Auchaber*,—600 feet above sea-level, a bare mile nearly due north of Stonehill. The Hillhead and Stonehill sites being in open fields, the absence of megalithic remains there was speedily ascertained. The site in the Wood of Auchaber offered specially attractive difficulties; these I overcame by forming my search-party of five resolute pedestrians into a line, which extended right and left to the verges of the wood, through which we then paced slowly. The wood being only a narrow though pretty dense strip, we by this means covered its whole extent thoroughly. But the only result obtained was the discovery of one fairly large boulder, which, as it corresponded neither in respect of size or position with the stone drawn on the O.M. 25-inch scale, we left in its solitude, unmeasured, and, but for this brief notice, unrecorded. This was the more disappointing since the drawing on the O.M. indicated a large block in the position of a recumbent stone.

More than a century ago it was recorded¹ of Forgue that “in sundry places rows of long stones, from 6 to 10 feet above ground, are to be seen, perpendicularly placed; some in an oblong, others in a circular form; those on the hillhead north of Frenndraught are the largest.”

I had no clue to this site on any of the Ordnance maps. It is not marked even on the 25-inch scale sheet. But on writing to the Parish

¹ *The Edinburgh Magazine* for 1761, pp. 11-13.

Minister, Rev. James Brehner, I was informed that some of the stones of this Circle are still *in situ*.

No. 22. *Towie, Auchterless*.—I notice this site next, though not in geographical sequence, because it is the last more site in the central portion of this district, and may not inaptly follow the three disappointing sites just described. The record on the O.M. bears that here, in a field 500 yards west of Auchterless Station, there once lay or stood a large stone, and the name *Pratt's Grave* is affixed to it in O.E. lettering.



Fig. 23. North Monkshill; remains of Circle.

On the ground, at the date of our visit, nothing was visible; and in reply to a letter of inquiries sent to Mr Maitland of Pittulise, I was informed that, to the best of his recollection, there never were standing stones here, but merely the site of a cairn.

No. 23. *Monkshill, Standing Stone*.—This monolith is on the O.M. vouched for as the remains of a circle, with the additional information that a cist was found at it in 1848.

The site is 450 feet above sea-level, on a flat field a short distance south of North Monkshill, and close to the north side of the cross-roads coming from Mains of Monkshill. It is $2\frac{1}{2}$ miles east of the river

Ythan. The field being in full standing corn on the date of my examination, it was impossible to search for traces of other stones. This one remaining monolith (see fig. 23) is finely set, tapering from a broadish base 9 feet 4 inches in girth to a height of 6 feet 9 inches. Its longest side of 2 feet 6 inches trends N.N.E. by compass, and this line if extended would touch the summit, not of the Mither Tap, but of Oxen Craig on Bennachie, which is the real summit of that hill.

No. 24. *Pitglassie*.—In an almost straight line westwards, 6 miles across country (see the Map, fig. 8), after twice crossing the much winding Ythan, we reach one more of the distressing amorphous heaps of stones, once—and that not so very long ago—the stately members of a circle. This accumulation much resembles that noticed above at Rappia Burn, with this difference, that all the stones have been toppled over, and alongside of the Recumbent Stone, which being far too ponderous, rests in what is probably almost its original position.

There are twelve great stones in all, occupying a rudely oval space 17 feet long and 10 feet broad; all are of whinstone.

The Recumbent Stone leans to the north slightly, its outer side is smooth and regular, its upper edge and inner side being partially covered by superincumbent stones. Its dimensions are, length 8 feet 3 inches, height 4 feet 8 inches, thickness 3 feet 6 inches. A pillar-like stone at the east side of the Recumbent Stone measures 5 feet 5 inches by 3 feet 1 inch by 2 feet 7 inches. Of the other ten stones, two are over 5 feet long by 3 feet broad, three are over 4 feet long and 2 feet 6 inches broad, three are over 3 feet long and 2 feet broad; and there are quantities of much smaller boulders of quartz, and various stones thickly strewn about these.

No. 25. *Corrydown*.—This site is about equidistant from the unclassifiable site at Towie and the Circle, presently to be described, at Mains of Hatton.

The O.M. draws four stones at this spot; but, as so frequently happens, no difference is made between the ground plan of the Recumbent Stone and that of any of the others.

We reached this Circle by walking from Auchterless Station, and were fortunate in finding the tenant, Mr Alexander Shand, at home, through whose interest in the stones and ready assistance in measuring a good plan was obtained.

The original diameter of the Circle was probably 75 feet; this was ascertained partly from statements made by Mr Shand regarding the

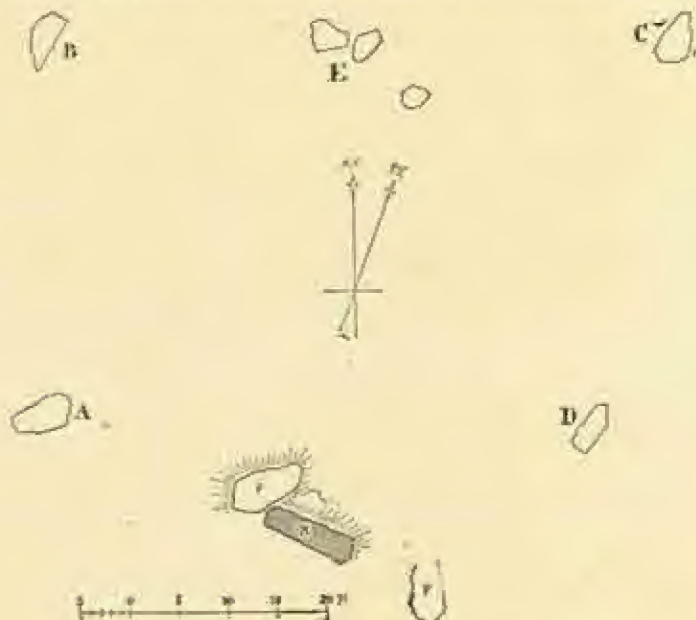


Fig. 24. Corrydown; Plan of Circle.

precise former positions of the stones, all of which are fallen (see fig. 24). Three small and thinish stones directly to the north of the Recumbent Stone were moved inwards by his orders, and attempts had been made at various dates to move the others, which, I take it, had resulted in their falling prostrate. The interior, level as a whole, is lumpy here and there with grass-hidden stones; and at many points, during the attempted removal of the Standing Stones, the tenant had noticed that

there were quantities of pebbles bedded into soil which was unlike the soil of the adjacent fields. He had, however, never found any remains indicating interment.

All the stones are of bluish whinstone, largely mingled with quartz.

The Recumbent Stone group appears to have been erected on a fairly well-defined ridge, portions of which are still visible. Owing to the herbage and partly beat-down corn, it was impossible to be certain if this ridge was continued throughout the circumference.



Fig. 25. Corrydown ; Recumbent Stone.

The sizes of the stones are—

A	.	5	feet	3	inches	long,	2	feet	6	inches	wide.
B	.	5	"	4	"	"	2	"	6	"	"
C	.	5	"	4	"	"	2	"	7	"	"
D	.	5	"	5	"	"	2	"	5	"	"

a remarkably equal set.

The east pillar, now lying about 7 feet to the S.E. of the Recumbent Stone, runs into the ground, but measures 6 feet, so far as its length is ascertainable; it is 3 feet 8 inches in breadth. The west pillar, also prostrate, is 8 feet 2 inches in extreme length and about 4 feet in width; it is fully 2 feet in thickness.

The Recumbent Stone, which trends W.N.W., measures nearly 10 feet in extreme length, has a mean breadth of 2 feet 6 inches, and

is 3 feet 7 inches high, with an inward slope. Its computed weight is nearly 4 tons.

Where so much displacement has occurred, it is futile to attempt on paper a reconstruction of the Circle; but the suggestion may be hazarded, that if the two diameters AC and BD represent with some approach to exactness the original dimensions of the Circle, there would be space enough probably for four more Standing Stones, which, with the seven at present on the ground, would form a Circle of eleven stones, that is, including the Recumbent Stone, and taking no account of the three small or broken blocks at E. I subjoin a view of the Recumbent Stone and fallen West Pillar (fig. 25).

No. 26. *Mains of Hatton, Auchterless*.—The land in this region is deeply undulating, and on one of the broadest and most conspicuous of these gently-rising eminences, about a mile to the west of the Howe of Auchterless, stand the remains of this Circle, once doubtless as characteristic as any that were to be met with in Aberdeenshire. The site is 530 feet above sea-level.

The site is in a field more than a quarter of a mile on the road towards Inverkeithny, and on the north of the road. On the O.M., even on the 25-inch scale sheet, this Circle is drawn as a group of five large stones, all similar in shape and size, and without any attempt at distinguishing the ground plane of any two stones so widely unlike, *e.g.*, as the Recumbent Stone and the fallen East Pillar. Still more remarkable, the 6-inch scale O.M. shows only three stones, within an almost square bounding line, meant possibly to indicate the stony enclosure of the Circle. This appears altogether inexplicable; nor does any elucidation arise out of the rehearsal of a very old story,¹ to the effect that once a laird removed some of these stones "to form pillars for a gate; but tradition goes that so many accidents occurred in consequence of this sacrilege that he was obliged to take the stones back again, and they now lie beside their neighbours, with the iron staples still fixed in them."

¹ See *Proceedings*, ix. p. 158.

A glance at the ground plan (fig. 26) at once shows a confused assemblage of stones close to the Recumbent Stone; and being unable to make any interpretation of their positions, I wrote to Mr R. Chapman, who, amongst other avocations, farms the Mains of Hatton, telling him



Fig. 26. Mains of Hatton : Plan of Circle.

of this story and of the contradictory plans on the Ordnance maps. In a few days Mr Chapman obligingly replied as follows:—

"In regard to your inquiry about the stones on the hill, I may tell you that, as far as my knowledge goes, none of the stones have been shifted within the memory of anyone living; and it is only within recent years that the land has been ploughed, through care having always been taken not to disturb the

original position of the stones. The old story you mention relates to the stone with the iron spikes; and though I have questioned many old people from time to time, I have never been able to discover anything concerning the actual facts which gave rise to it. But the spikes embedded in lead projecting from it do indicate that at one time it had been used as a pillar for a gate. This is the stone you mention as not occupying the usual position.

"The story may be a century old or more, and related to a laird of Hatton, who at that time lived at Hatton Manor, the neighbouring farm to ours.

"The ploughing has changed the form of the surface of the Circle little or nothing. Since I remember, it has always been rather hollow in the centre than otherwise, and never showed the appearance of an outline of a planned work of any sort; and all the stones which have been taken off it are those you saw gathered in between the big stones on the south side.

"I have several times walked over the ground after ploughing, but have never found any flints or indication of other antiquities, nor am I aware of any stone coffin having been found in the immediate locality; but on the farm¹ lying $\frac{1}{4}$ of a mile to the N.W. from the Circle, several urns have been found from time to time."

The above statements to some extent render the plan of this Circle more comprehensible; for by discounting all the six stones of various sizes which lie confusedly in front of the Recumbent Stone, we obtain this southerly group situated in almost the normal positions, the two pillars being fallen. The Recumbent Stone is small for a Circle whose probable diameter was 67 feet. This diameter is gauged by measuring from the Recumbent Stone to the centre of the stone due north of it, which is half concealed in the ground, and therefore is more likely to be approximately close to its original position than any of the others.

The dimensions of the stones are these:—

The fallen stone, at a point some 27 feet to the west of the West Pillar, is 6 feet 2 inches by 4 feet 8 inches, by 1 foot 5 inches in thickness; the first of the next group of three measures 2 feet 8 inches by 2 feet by 1 foot; the middle one, 4 feet by 2 feet 7 inches by 2 feet 4 inches; and the last one of the group, 4 feet 4 inches by 2 feet 6 inches by 1 foot 7 inches. All these are whinstone blocks. The north stone, half concealed in the ground, is of whitish quartz; its

¹ Charlesfield, on Gallow Hill. See *Proceedings*, ix, 158.

western edge projects 1 foot above ground, and its greatest breadth is 3 feet 6 inches. The stone next in order, also fallen, is a squarish block measuring 4 feet 5 inches in breadth and 2 feet in thickness. The two fallen stones close together on the S.E. are about 2 feet 3 inches above ground, and in length 6 feet 6 inches and 5 feet 4 inches. The height (thickness) of the fallen East Pillar is 3 feet 4 inches, its length 6 feet 10 inches, and breadth 5 feet 8 inches. The middle of the edge of the Recumbent Stone almost touches it. The extreme length of the Recumbent Stone is 8 feet, breadth just over 3 feet; and its height differs from 3 feet 5 inches (vertical) on the outside to only 1 foot 6 inches in front; and it is triangular in section. The West Pillar, now



Fig. 27. Mains of Hatton; View of Circle.

prostrate, nearly 5 feet away from the Recumbent Stone, measures 6 feet by 3 feet 10 inches by 1 foot 8 inches. The East Pillar is of whinstone with quartz veins, the small stone directly in front of it is of nearly pure quartz; the Recumbent Stone and West Pillar are of whin.

With so few of the stones in their original positions, we cannot affirm anything regarding their original number; but taking 70 feet as a mean diameter, there would be room on a circumference of 220 feet, with the spacing suggested by the positions of the north stone and the nearest on its south, for a ring of twelve stones in all.

In my view from the N.E. (fig. 27) the present condition of these much disturbed stones may be seen, as well as the comparatively insignificant size of the Recumbent Stone group.

The computed weight of this last mentioned stone is over 4 tons.

No. 27. Harestane, Feith-hill.—Though there are two stones at this site, the name as printed on the O.M. and spoken by residents is in the singular. The site is known to be that of a Stone Circle, and it seems likely that, as one of these two stones is prostrate, the upright one is that which obtained the specific epithet of Hare- or Haer-Stane—boundary stone.¹

The farm of Feith-hill is on an upland about $1\frac{1}{2}$ miles nearly west from the stones at Pitglassie; and on a rising ground, 590 feet

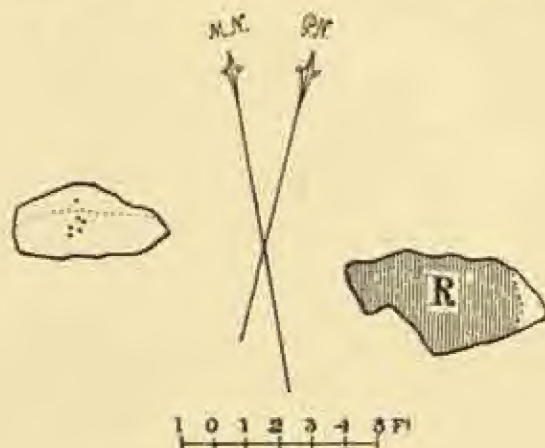


Fig. 28. Harestane; Feith-hill.

above sea-level, fairly conspicuous from all sides, there remain the two Stones shown in the ground plan (fig. 28) and the view (fig. 29).

They lie 4 feet 6 inches apart, on a quite level portion of the field, the prostrate one to the west of the erect one, which was the Recumbent Stone in a Circle of several stones having a diameter of about 60 feet.

The Stone now prostrate once stood erect on its broader end, close to

¹ Compare *Harestane*, an imperfect stone circle in the parish of Kirkcud, Peeblesshire, and *Harestane*, or *Cleft Stane*, on S.E. slope of Sterling Hill, marking the division between Peterhead and Cruden (Pratt's *Buchan*, p. 60).

the Recumbent Stone. Several cists were taken out of the area of the Circle, which was very stony.

For these particulars I am indebted to information given by Mr Morrison at the farm, who also stated that the circle at Pitglassie was about 60 feet in diameter.

The now prostrate stone, or West Pillar, is a ponderous block of blue whinstone, rather smooth, and of such a form that its top slopes off on either side from an approximately central ridge (see dotted line, fig. 27). On one side of this ridge there are four cup-marks, with one on the other side. In the original position of the Stone, these cups would be



Fig. 29. Harrestanes; View from the East.

on its outer or western edge; and it may be noted, in passing, that this group of marks has a curious resemblance to the constellation of the Great Bear—a resemblance which occurs in other instances of grouped cup-marks.

The Recumbent Stone, compared with many elsewhere, is small, very uneven and unshapely; its full height is 4 feet 2 inches, full length 6 feet 4 inches, its greatest breadth 3 feet; weight about 2½ tons.

No. 28. *Crofts of Shielburn*.—With this site we begin the investigation of a cluster of megalithic remains, five in number, and comprised in an area measuring less than one square mile. They all lie to the N.N.W. of the Hill of Carlingraig (see the Map, fig. 7). It is deplor-

able to have to report, however, that only one out of the five circles is in anything like its pristine condition.

The one stone¹ remaining at this Crofts of Shiellburn is situated in a field 2 miles N.W. of Corrydown Circle, and $\frac{3}{4}$ of a mile due N. of Greymuir Cairn.

The Stone, composed of rugged blue whin mingled with white quartz pebbles, appears to have been canted over, as it now rests on an edge (as shown in fig. 30), with a considerable overhang towards the west. Its present height, 4 feet 1 inch, is less than its greatest breadth of

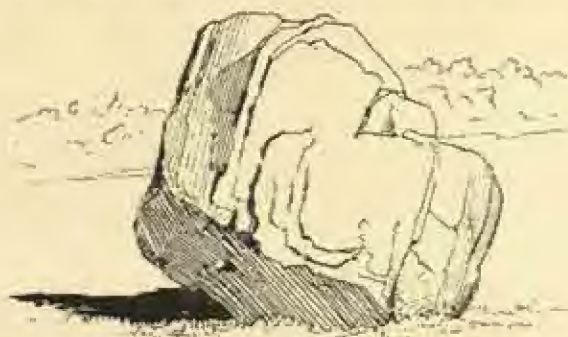


Fig. 30. Crofts of Shiellburn : remains of Circle.

nearly 5 feet. It is a bulky stone, girthing on the ground 12 feet 8 inches, and very considerably more about midway. From this spot three of the other neighbouring circles must have been well in view, especially the two small ones at Backhill of Drachlaw. At a point 240 yards S.E. of this Stone the O.M. records the finding of an urn on a piece of ground bearing the same name of Crofts of Shiellburn.

No. 29. Backhill of Drachlaw, East Circle.—This Circle—the only one apparently untouched by the rough hand of the agriculturist among all those at present passing under review—is noteworthy for another reason. It is small, devoid of a Recumbent Stone, but consists, as do

¹ Two are shown on the O.M. of 1267, standing less than 60 feet apart, N.W. and S.E. of each other.

others of the same variety, of stones very large and massive in proportion to the diameter of the enclosed space. In these features it is nearly identical with the circle at South Ythsäe,¹ and not unlike the still smaller circle, shortly to be described, at Raich. The site is 440 feet above sea-level.

The six stones of this Circle are arranged so that three fill up the north arc and other three fill up the south arc (see fig. 31), leaving a space between the extremes of the arcs much greater than the inter-spaces between the stones. The stone at E being broken and the upper



Fig. 31. Backhill of Drachlaw; Plan of East Circle.

part fallen forward, somewhat destroys the symmetry of this arrangement. But the differences in the interspacing will best be noted by putting them in tabular form.

From A to B (centres)	.	.	.	17 feet 8 inches
" E to D "	"	"	"	17 " 8 "
" F to A "	"	"	"	10 " 0 "
" C to D "	"	"	"	11 " 6 "
" F to E "	"	"	"	14 " 3 "
" B to C "	"	"	"	11 " 0 "

The stone at E, as already stated, has fallen; were it rolled over inwards once only, its centre would then be just 12 feet from the centre

¹ No. 31 in the Report for 1901, *Proc.*, xxxvi. p. 524.

of F, and almost exactly the equivalent of the space between B and C. Thus the symmetry of the Circle would be complete.

Another point to notice is that the stones C and D are respectively due north of A and F, and that the great boulder B, so irregular in contour, is set due west of stone E.

It is to be observed also that all the stones are not set with their broadest faces facing the centre of the Circle. This was likewise characteristic of the South Ythae example.

These stones are all rugged whinstone boulders, variegated with seams and pebbles of white quartz. In one, the largest stone, there is an outstanding band of quartz circling the whinstone like a rope of crystal (see View, fig. 32).



Fig. 32. Backhill of Drachlaw; View.

The heights and characteristics of the stones are—

A	.	4	feet	10	inches,	of	whinstone	full	of	quartz	pebbles.	
B	.	4	"	0	"	"	"	seamed	with	quartz.		
C	.	2	"	7	"	"	"	with	quartz	pebbles.		
D	.	3	"	10	"	squarish,	"	"	"	"		
E	.	2	"	10	"	on	edge	fallen	;	pure	grey	whinstone.
F	.	3	"	0	"	squarish	;	of	whinstone	with	quartz	pebbles.

The interior is absolutely level and smooth. It was extremely difficult to find any indication even of a slight mound at the base of the stones. Nor can I allege anything as to the stony, or reverse of stony, condition of the area below this grassy surface, having no efficient probing-tools with which to test it.

The two extreme diameters are between the centres of B and E 28 feet 6 inches, and of A and D exactly 28 feet. So far as I could learn, no tampering with these stones or ploughing within the enclosure had ever been attempted.

How differently it has fared with the next group must now be chronicled.

No. 30. Backhill of Drachlaw, West Circle.—This on the O.M. is shown as a Circle of six stones, of about 28 feet in diameter, and from the present tenant, Mr P. Anderson, the following details regarding it were gathered: That many years ago one of these six stones, then forming a Circle, close to which the farm-steadings came to be built, was removed by a neighbouring farmer who 'required' a block of good stone out of which to make lintels. It was the largest, and no doubt the shapeliest, of all the stones, and it stood nearly at the south point in the group.

The remaining five stones were subsequently removed from their original positions and placed in the line of two dikes. Here I saw them. In character and size they closely resemble the stones of the East Circle. Nothing seems ever to have been done with a view of ascertaining what lay within their enclosure; they were just shifted out of the way and rendered useful as component parts of the two farm-yard dikes. Let it be hoped it may be long ere a similar fate overtakes the East Circle.

No. 31. Oof, or Wolf, Stone.—This Standing Stone is mentioned by Rev. J. B. Pratt,¹ who wrote upon various antiquarian topics during his forty-five years' incumbency at St James', Cruden.² He suggests as the meaning of the name Wolf, Woof, or Oof,³ as the Aberdonian pronunciation of Elf. There are one or two analogies to bear this out. The parish of Udny, *e.g.*, is by natives called Widny, and the Ferry of Unes, Yoones.⁴

¹ *Antiquities of the Buchan District.*

² Between 1825-1860.

³ There is a Wolf Stone in Monymusk also, and Elf Stones in many places.

⁴ *Interpres Sc. Soc. Trans.*, iv. p. 355.

But however this be, the Stone stands upon the boundary between the counties of Banff and Aberdeen, at a height of 700 feet above sea-level, at a point shown on the O.M. $\frac{3}{4}$ of a mile nearly west of Croft of Feith-hill, and over $\frac{1}{2}$ a mile N.W. of Lenshie.

The uncertainty of its being truly associated with any prehistoric site, or of being itself an ancient standing stone, debarred me from attempting to reach it. Its site also is remote from any of those visited, and would have entailed greater expenditure of time than the stone seemed to warrant.

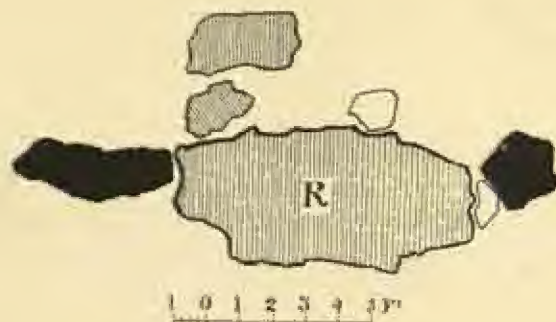


Fig. 33. Cairn Riv ; Plan of Cairn Stone.

No. 32. *Cairn Riv.*—At this site, within a few feet of the boundary between Banff and Aberdeen shires, 300 yards N.E. of the circle at Backhill of Drachlaw, there is shown on the O.M. a dotted ring some 95 feet in diameter, and on its southern arc an enormous stone named *Carlis Stone*. A hasty view such as one would receive in driving past this Stone on the road to Turriff would, I think, leave the impression that this was merely a boulder of uncommon bulk, stranded here by glacial agency. On closer inspection, although it may still be difficult to rid oneself of that impression, other points in connection with its position and surroundings arise, points which may involve problems regarding recumbent stones in general. To these some reference will be made later. We must first be acquainted with the facts of the case.

There are here three stones in line, the colossal boulder called Carlin Stone, poised between two others, quite small in comparison. See the ground plan (fig. 33). In addition, there are two set stones of considerable size projecting inwards from the Carlin Stone near its west end, and there is also a fair-sized flat-sunk slab near what I shall call the East Pillar, the thick short stone to the right in the view (fig. 34). The Carlin Stone is of very rugged whinstone. Its girth on the ground is 22 feet 9 inches, but at about the height of 5 feet it measures no less than 26 feet 10 inches in girth. Its greatest height is 8 feet 6 inches.



Fig. 34. Carlin Riv; View of Carlin Stone.

It stands pretty nearly vertical, on a base varying from 2 feet to 4 feet in breadth and 9 feet in length. The weight is over 14 tons.

The heights of the other stones are: West Pillar, 2 feet, and 5 feet in length; East Pillar, 4 feet 3 inches, and 2 feet 3 inches square. The two earthfast smaller stones to the front are nearly 2 feet high.

I think this boulder, rugged, unshapely, and most unusual in height though it be, should be accepted as the Recumbent Stone of the Circle that certainly once existed here, partly for the facts of its present surroundings above stated, and partly because, through the information derived from the tenant of Backhill, the following facts were obtained.

There stood, in his father's time, several great stones—none nearly so huge as the Carlin, however—in a Circle, within which was a very low mound or cairn, not a cairn in the true sense, but only 3 feet or so in height, spreading over a great space.

At various times, dates unremembered, these blocks of whinstone had been removed, the mound of stones carried away for the dikes, and in or near the spot where they once stood there were found a small axe-hammer, perforated, portions of three bronze armlets, flint chips, and a button of jet. Mr Anderson did not allege that these objects had been found all actually within the area enclosed by the Standing Stones, but in the ground close by, some of them in that area.

The axe-hammer is of a peculiar stone, dark brown, unveined, very smooth and hard. Its dimensions are, length $4\frac{1}{4}$ inches, breadth $1\frac{1}{2}$ inches, thickness $\frac{1}{2}$ inch, and the shaft hole is vertical and $\frac{1}{2}$ inch in diameter. The jet button Mr Anderson presented to the Museum, and I brought it away. Externally similar to several others in the National Collection, this button possesses one special feature of interest in being twice bored for the fastening, the second time at right angles to and below the first.

In the work already mentioned¹ this Circle of Standing Stones is described as being about 36 yards in diameter, and the boundary lines on which the Carlin-ring Stone, the Harastone at Falih-hill, and the Wool Stone stand, are defined.

No. 33. Greymuir Cairn.—It seems clear that in this localised district the term 'cairn' has been employed to designate the low mound of stones, whether flat or slightly conical, within a ring of standing stones. This site, which on the O.M. is shown as a dotted ring, 55 feet in diameter, at Greymuir, is a second instance, and before the survey for this Report is concluded we shall meet with one or two others. With regard to this monolith—sole relic of the Circle—little indeed can be said. What facts I am in the position to state were obtained through conversation with Mr Wright who, over forty years ago, settled here

¹ Pratt's *Buchan*, 3rd ed., p. 6, and App. C.

and began to cultivate the land on this farm of Newton of Fortrie. A Circle of Stones extended to the north of the monolith, which measures only 3 feet 9 inches in height, 6 feet in greatest length, and 3 feet 6 inches in breadth. Its basal girth is 15 feet. Some little way to the north of it there was found in 1872 a large flat slab of shaly grey-wacke.¹ It was removed and laid against the dike near the west wall of the steadings. It measures 3 feet 8 inches by 2 feet 8 inches, and is about 13 inches in thickness. No note was taken at the time whether anything was found below this Stone, which has the appearance of a cist-cover.

No. 34. *Raich, Forgue*.—This site is $3\frac{1}{2}$ miles to the S.W. of Drachlaw, and 3 miles slightly N. of E. from the Harestane at Feith-hill. Though quite small and imperfect, this Circle is interesting from its unlikeness to most at present under notice, and the strong likeness it bears to one surveyed in 1901 at Sheithen in Tarves,² and, in some aspects, also to the circle at South Ythsie.

The interest and kindly proffered help of Mr Legg, tenant at Raich, enabled me at the close of a long day's work to make the survey of this little Circle very thorough. He informed me that the site was known as Standing Stones field, but the Circle is by no means near the summit of the field. The stones, which are all of the blue whin, are set upon a very distinct and sharply defined mound, stony throughout its area, and now very thickly grass-grown. The diameter, measured to the centre of the two standing stones farthest apart, is 18 feet. These two stones are nearly north and south of each other (fg. 35). Close to the edge of the north stone are two earthfast blocks, 19 inches above ground (shaded in plan); the next erect stone on the east has also close beside it a similarly sized earthfast block. These, to my observation, suggested possible remains of cists. All the stones drawn in outline are fallen, but there still stand four well-set and erect ones on the south arc. The most easterly of these is 4 feet 8 inches above ground, actually higher than the

¹ There is a quarry of such stone near Crofts of Shilburn.

² See *Proceedings*, xxxvi. p. 526.

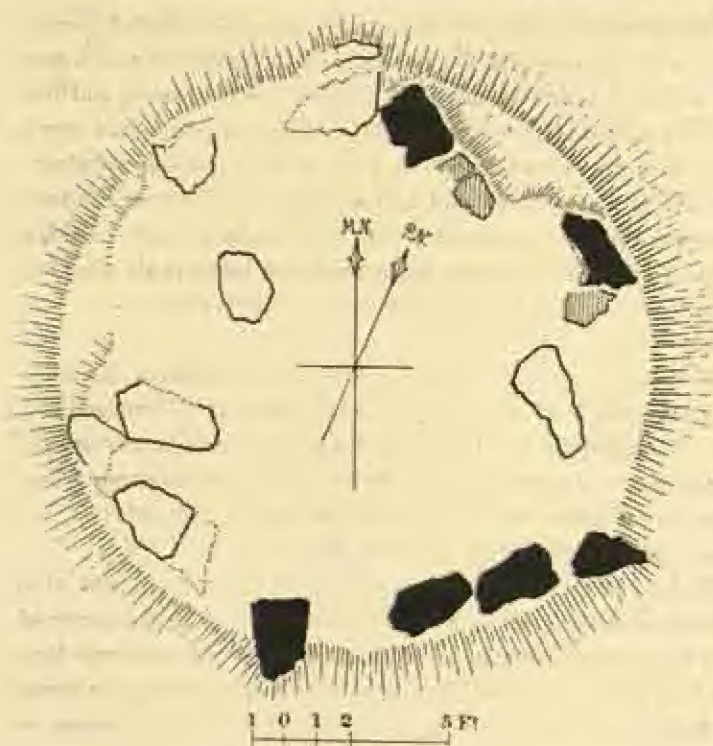


Fig. 35. Raich : Plan of Circle.



Fig. 36. Raich : View of Circle from the East.

block on the north, which measures 4 feet 2 inches, but, from difference of position, not merely so prominent. (See the view, fig. 36.) The next two stones are 3 feet in height and the fourth 2 feet 5 inches. In the sectional view (fig. 37) the proportional heights of the Stones and the height of the mound upon which they stand are shown.

The site of Raich Circle is a little above the 500-foot contour line, and would be fairly conspicuous for some distance northwards down the beautiful Glen Dronach, which is here the boundary between the counties.



Fig. 37. Raich ; Section N. and S.

No. 35. *Yonder Bognie*.—Two miles to the N.W. of the last site, and on the west side of the Burn of Forgue, a tributary of the Deveron, we are in the midst of a strip of slightly undulating ground, strewn in many directions with whinstone boulders of greatly varying sizes.

With some of the largest of these, the men of old constructed here, on a space of ground very gently sloping towards the east, a Circle of Standing Stones, which, even in its ruins, is imposing. (See the view, fig. 39.) From the positions of the grand Recumbent Stone and of the other five yet erect, it is possible to estimate with fair accuracy the diameters of the Circle, and the at least probable positions of the five now lying prostrate.

At this somewhat remote site, also, it is pleasant to record that willing and efficient help was accorded during the long and careful mensuration given to these stones. Mr Shand is the descendant of tenants who

have farmed this ground for upwards of three hundred and ninety years—witness the kirkyard epitaphs at Inverkeithny.

What may have been the original or even the mediæval condition of the area comprising this Circle-enclosure it is not possible now to affirm. One feature however, which, for the sake of exact truth, is represented



Fig. 38. Yonder Bognie ; Plan of Circle.

in the view, needs a line of explanation. This is the ridge upon which the tall Stone to the east and the Recumbent Stones *seem* to rest. This being the only portion of the circumference at all raised above the general level of the field, naturally caused me to question Mr Shand, who at once replied it was no part of the Circle, but merely formed by accumulations of weeds. We appear to have here, then, a Circle-interior

perfectly flat and smooth, surrounded by a ring of Standing Stones, of which the lowest is that set near the north point and the highest near the Recumbent Stone.

Taking the Stones in order from the south, we observe first that the East Pillar (see plan, fig. 38) has fallen, and is now in part covered over with grass; it can be felt and measured for a length of 7 feet. The Recumbent Stone is the most right-angled and vertical specimen we have met with, taking its great size into account. Its dimensions are—summit, extreme length 9 feet 2 inches, its average breadth at the top 4 feet 5 inches, height on the inner side 4 feet 2 inches; at S.E. angle outside 5 feet 6 inches, and at the W. angle 4 feet 7 inches. It girths at the



Fig. 39. Yonder Boguis : View of Circle.

base 33 feet 10 inches, and, as all its sides are nearly vertical, this may be given as its average girth. The computed weight therefore is 10 tons 15 cwt. By magnetic compass its longer axis points 5 degrees N. of W. The West Pillar is 5 feet 7 inches in height measured on the outside, 5 feet 1½ inches on the inner side; there is a space 12 inches wide between it and the Recumbent Stone.

The Standing Stone next in line, No. I., has a triangular base; its height is 4 feet 6 inches; close to it on the north is a half-sunken stone. The height of Stone II. is 3 feet 3 inches vertical, but it has a long slope to the west. The third Stone has fallen inwards; its probable site is marked on the plan with a square cross; its length is 6 feet, so far as it can now be measured, as about half of it runs into the ground. The

fourth Stone is 3 feet 8 inches above ground. It almost precisely faces the Recumbent Stone, from which it is distant 71 feet 6 inches, the true diameter of the Circle. The fifth and sixth Stones are wanting, but the seventh lies only a foot or two within what must have been its original site; it is 5 feet 6 inches long and about 4 feet 6 inches broad. Between this Stone and the ground plans of two almost contiguous Stones on the S.E. are lies what seems to be a fragment of the eighth Stone, but its true position cannot be definitely laid down. The ninth Stone, the larger of the two whose bases are shown close together, stands 5 feet 8 inches above the ground.



Fig. 40. Youder Bogle; Sectional View.

The spaces between the Stones are—

Stone	I. to	II.	.	21 feet 3 inches.
"	II. "	III.	.	21 " 3 "
"	III. "	IV.	.	21 " 0 "
"	IV. "	V.	.	21 " 0 "
"	V. "	VI.	.	14 " 0 "
"	VI. "	VII.	.	17 " 0 "
"	VII. "	VIII.	.	17 " 0 "
"	VIII. "	IX.	.	17 " 0 "
"	IX. "	East Pillar	.	28 " 0 "
East Pillar to West Pillar			.	14 " 0 "
West Pillar to Stone I.			.	17 " 0 "

thus yielding a circumference of 204 feet 6 inches.

I have already commented upon the unusual smoothness of the interior of the Circle, that is, of its smoothness in general, and its freedom from

any indication whatever of a mound in the centre. There are, however, several projecting smallish stones in the space directly in front of the Recumbent Stone, some of which appear to be earthfast integral portions of the Circle, and others possibly stones once forming parts of a concentric setting, but long ago shifted out of their places. The largest of those which seem earthfast is at S on the plan, while the group at B calls for notice as suggestive of cists. For their relation in height to the Recumbent Stone see the sectional view (fig. 40).

No. 36. *Cairnton*.—About $1\frac{1}{4}$ miles S.S.W. of Yonder Bognie stand the two massive Stones on this farm, all that remains of a Circle shown

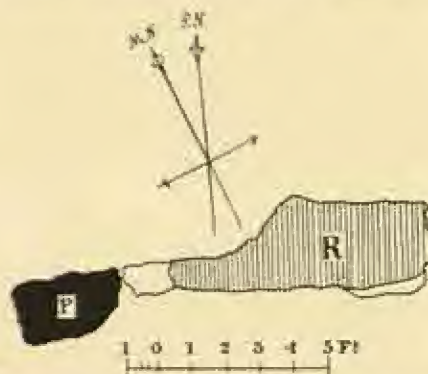


FIG. 41. *Cairnton* : Plan of remains of Circle.

in the next two illustrations (figs. 41, 42). Even these two have not escaped mutilation, for it is evident on the first glance that this Recumbent Stone has suffered the loss of a full third of its mass.

This Circle-site is an example of what we have had several times to notice as regards position, namely, that it does not occupy the flat summit of the hill here, but is placed on ground facing eastwards.

Both these blocks of whinstone are rugged and unsymmetric, the Recumbent Stone having a considerable overhang at the extremity nearest the pillar, and the latter projecting on the south beyond the base-line of its neighbour.

The Recumbent Stone, probably about 12 tons in weight, measures in extreme length 9 feet 10 inches, greatest breadth of top 3 feet, at base 2 feet 10 inches, highest point outside 6 feet 3 inches, inside 4 feet 6 inches, and is nearly vertically set. The Pillar measures 8 feet 3 inches on the outside and 6 feet 9 inches inside.

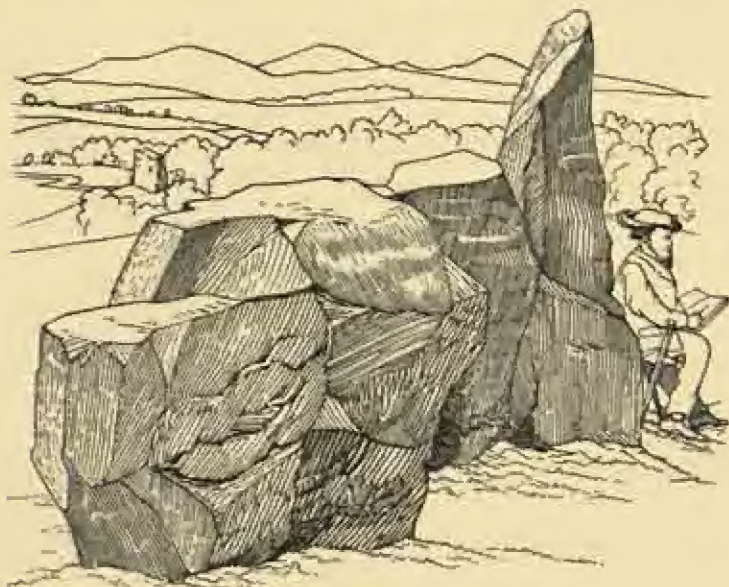


Fig. 42. Cairnton; View of Recumbent Stone and Pillar

No. 37. Kimmony.—Above Hillhead of Avochie, at a height of over 400 feet, just within the border of Banffshire, there is a wood-crowned summit, and upon it the O.M. shows the symbol for the site of a Stone Circle which appears to have been 50 feet in diameter. This site was passed at some distance as I pursued my road towards the much more important one at Rothiemay, and there so much was found to put on record that the fast fading sunlight of late September barely sufficed. Hence I can say nothing of this site, nor have I been able to learn anything concerning it.

No. 38. *Rothiemay Home Farm*.—This locality marks the extreme north-western limit to which our investigations were carried. The site is distant from the last about one mile and a furlong to the N.N.E., but both are separated from the circles at Yonder Bognie and Cairnton by a tract of country between 3 and 4 miles wide, and for a far greater space to the north and the west the country is absolutely devoid of circles. A few cairns are, or were, to be found.

Local circumstances seemed rather combined against the investigation of the remains of this Circle. The field in which it is situated was, during that last week of September, deep in corn, which in some parts had grown up to an unprecedented height, and in others was lying uncut in heavy swathes, wind-dashed and rain-rotted—both conditions infinitely perplexing to the surveyor. Not a soul about the place seemed to care whether the corn was likely to be further injured by my examination of the Circle, still less was any assistance offered in the great difficulties of its mensuration. My thus somewhat uncertain triangulating was, however, on my return to Edinburgh, checked by an unusually clear plan drawn on one of the O.M. 25-inch scale sheets; therefore the want of minute accuracy has, I trust, been reduced to a minimum.

The site of this once noble specimen of the typical Stone Circle of North-eastern Scotland is in the second field, to the north of the Home Farm steadings, and its most northerly stone (C on plan, fig. 43) is 46 yards from a gateway opening on to the road to Aberchirder. I have not been able to learn when or for what reason so many of its Standing Stones were removed, but at present there are but four, in addition to a grand, very massive Recumbent Stone, set as usual near the S.W. point. The four Standing Stones are nearly on the circumference of a Circle which measured 77 feet 6 inches in diameter, magnetic N. and S. (i.e. from stone C to stone H), and 83 feet measured from the Recumbent Stone to a point where a stone probably once stood. On working this out, we obtain spaces for a Circle of twelve stones in all, including the Recumbent Stone group. There is, however, one remarkable feature in the arrangement of these stones, that is, the circumference of the Circle

upon which B, C and H are standing runs much within Stone L and the Recumbent Stone. In other words, we seem to have here the remnant of an arrangement extremely similar to that observed in the great circle

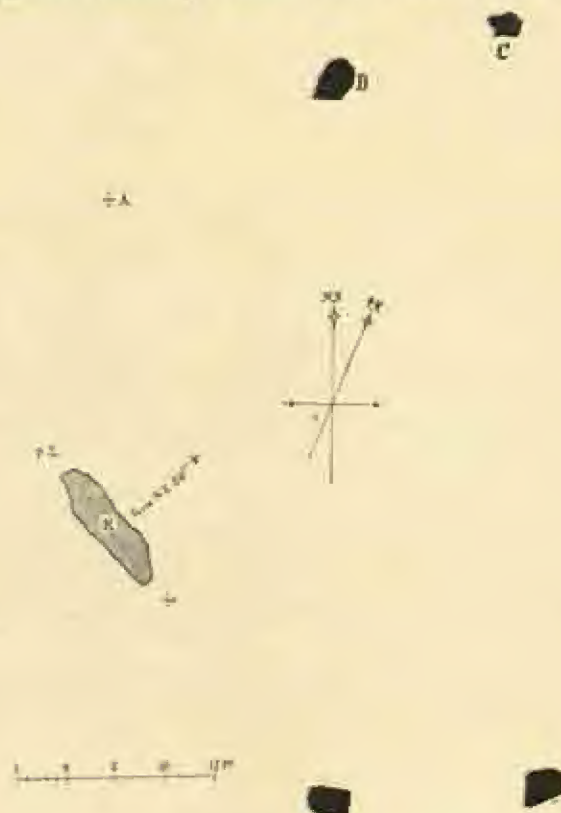


Fig. 43 Rothiemay; Plan of Circle.

at Auchquorthies¹ in Banchory-Devenick, where the Recumbent Stone is not 'in line' with the great standing stones, but rather with the concentric inner setting of smaller blocks on edge. All the stones are of the blue whin.

¹ See *Proceedings*, vol. xxxiv, p. 145.

Taking the Stones in their order from right to left, their heights are—

Stone H . . 6 feet 3 inches, pointed, and with broad 'shelf'

facing inwards.

" I . . 5 " 9 " . . rather pointed.

" B . . 6 " 0 " . . with rounded top.

" C . . 6 " 2 " . . with flat top.



Fig. 44. Rothiemay ; View of Circle from the North.



Fig. 45. Rothiemay ; View from the West.

The Recumbent Stone measures on the ground 13 feet 6 inches by 4 feet in greatest breadth. Its fullest length about the middle is 14 feet 4 inches. In height it varies, being so irregular on portions of its top ; at the east extremity, it is 4 feet 8 inches ; its outer edge is 5 feet 7 inches at the east, and 5 feet 3 inches at the west. On its inner side its height varies from 3 feet 6 inches to 4 feet 9 inches. It is vertically

set, and faces N.E. 5 degrees E. of N.E. (by compass). (See figs. 44, 45.) It may be about 12 tons in weight.

On its vertical inner face is a large group of cup-marks (fig. 46), beginning at a point 7 feet 5 inches distant from the eastern edge, and occupying nearly all the rest of the lower space close up to the western edge. These cup-marks are twenty in number, and vary in size from

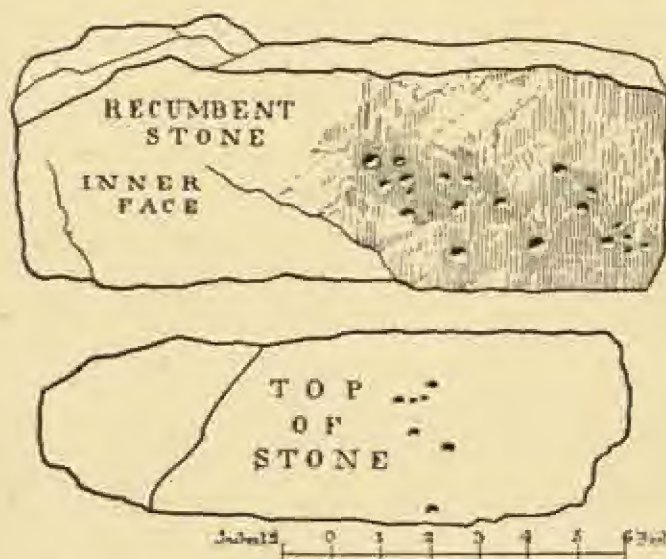


Fig. 46. Rothiemay : Plans of Cup-marks on Recumbent Stone.

1½ inches in diameter to those few which are 3 inches in diameter. The cups are on the best and smoothest portion of the stone; they are all of nearly a uniform depth of $\frac{1}{8}$ of an inch.

The top of the Stone also (fig. 46) shows cup-marks,—four small ones in a curve near the outer edge, two larger near the middle, and one large one close to the inner edge. All these cup-marks are shown in the two illustrations included in fig. 45, accurately to scale, and in exact relation to each other as groups.

The cup-marks here were observed (I think for the first time) in August 1883 by Mr A. Ramsay, President of the Banffshire Field Club, at a joint meeting between the Inverness Scientific Society and that club, held at Banff on that date.

No. 39. Whitehill Wood, Forglen.—At this hill-summit we reach the most northerly site as yet dealt with in these surveys, its position being on the north bank of the river Deveron, here flowing through a beautiful and richly wooded landscape, at a point slightly to the north of west from Turriff railway station 3 miles and a furlong, in a direct line between it and the middle of Aberchirder, from which the Circle is distant $3\frac{1}{2}$ miles. These distances, however, do but feebly express the actual amount of walking involved in reaching this remote and unknown site, to which both the winding of the paths and the undulations of the ground contributed—to the loss of time certainly, but also to the strenuous pleasure of overcoming obstacles in a strip of country thickly wooded, traversed by unexpected streams, and unusually full of steep abrupt declivities. Had we been unprovided with a compass it is much to be doubted whether this Circle could have been included in the Report, no one at any of the farms where we made inquiry knowing of the existence of a Whitehill Wood in this neighbourhood.

Even when the densely wooded summit was gained, there being no landmarks from which to take bearings, much time was spent amid the interwoven pine branches and ferny undergrowth, until at last one great stone, unmistakably grey amid the wealth of bracken, became visible, then a second, and a third, and so on we pieced the Circle together into a ring of seven stones. So luxuriant and dense was the growth of these specimens of *Pteris aquilina*¹ that the whole interior of the Circle had to be cleared with our knives before any two of the stones could be seen simultaneously.

For the above cogent reasons, it has been impossible to append any view of Whitehill Wood Circle; for, apart from the bracken, the thickly

¹ The majority were over 5 feet 6 inches in height, and some which we measured exceeded 7 feet.

planted firs so encroached upon the stones as to render any drawing of them as a group quite out of the question. I have, however, made sectional views from our measurements (fig. 48).

This Circle is shown, even on the 1-inch O.M., as a dotted ring, and on the 25-inch sheet as a group of eight stones, set in a nearly circular form, near the summit of the hill, $\frac{1}{2}$ a mile to the N.E. of Carnousie House. Some 115 yards due south of it the O.M. also shows an indistinctly circular spot called *Cairn Ennit*. To this we shall presently recur.



Fig. 47. Whitehill Wood, Forglea; Plan of Circle.

Two stones only are now erect, full on the east arc (B and D on the plan, fig. 47). The spaces between the stones, centre to centre, are—

From A to C	12 feet 8 inches.
„ C to e	7 „ 10 „
„ e to f	9 „ 0 „
„ f to B	17 „ 0 „
„ B to D	12 „ 5 „
„ D to g	15 „ 3 „
„ g to A	14 „ 9 „

yielding a circumference of just 89 feet.

If the small stone *e* is to be included as an integral member of the Circle, it is out of symmetry with the others. The stone next it on the north, *f* in the plan, though it looks (thus shown) also small, is really a large stone, its lower extremity running into the ground. Were it raised to the vertical from the outside, its base would rest on a point (close to the M of the compass-mark, just equidistant from C and B). As so many of these stones are fallen, it is mere speculation to suggest their original positions. The average diameter may be set down as 29 feet.

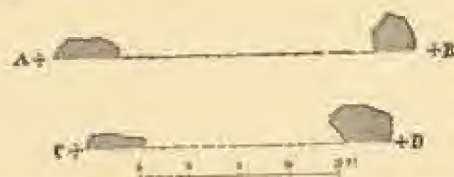


Fig. 48. Whitehill Wood, Forglie; Sections.

The dimensions and characteristics of the stones are as follow:—

- A, fallen, 6 feet 3 inches \times 4 feet 6 inches, centrally-ridged.
- C, " 5 " 6 " \times 4 " 6 " whin, quartz-veined.
- e, " 4 " 0 " \times 1 " 10 " very quartzitic, lumpy.
- f, " total length unascertainable, breadth 2 feet 8 inches,
18 inches above ground at the north end.
- B, 4 feet in height, 7 feet 10 inches long, 3 feet 3 inches broad;
whinstone.
- D, 4 feet in height, 5 feet long, 3 feet 8 inches broad.
- g, fallen, 6 feet 2 inches \times 2 feet 7 inches; whinstone.

As would be expected, in such a damp situation the stones are thickly overgrown with lichens and mosses, but so far as it was possible to guess at their mineral composition from exposed fragments, they are as above stated. The central area is very uneven and lumpy, but whether this was referable to its being stony in addition to being crammed with the roots of the great ferns, we had no leisure to

examine, as heavy showers came on, preventing more than a passing glance at *Cairn Ennit* as we retraced our steps down to the Turriff road.

In describing *Cairn Riv* and its *Carlin Stone*,¹ reference was made to the fact that it seemed a feature of this district to call a low mound of small stones surrounded by great stones or boulders a cairn. This *Cairn Ennit* further illustrates this peculiarity. What was its precise original form cannot now be guessed at, but in our hasty exit from the dripping woods we saw at least that several good-sized blocks of quartzitic whinstone were lying on the circumference of a circle some 80 or 90 feet wide, and on the southern arc—relatively in much the same position as the Carlin Stone to Cairn Riv—an enormous boulder, which we roughly measured, and found to be nearly 8 feet in height and about 11 feet in length.

CONCLUSION.

In grouping these various megalithic remains into an order of classification by which they may be compared with those that have been previously investigated, I shall begin by placing together—(1) those sites which are bereft of all remnant of a group or of a single Standing Stone: such are Hillhead of Fergue, Stonehill, Auchaber Wood, Towie, West Haughs, Burreldalea, Kimmunity. (2) Sites occupied by a Monolith: Wardes, Back Fernet, Braeneil, Woodend of Cluny, Luth Stone, Tow Stone, Candle Stone, Conglas, Congalton, Wool Stone, and N. Monkshill. (3) Sites, once of Circles, but of which only one or two Stones remain: Mill of Schivas Wood, Hallgreens, Crichton and Fedderit Stones, Upperthird, Crofts of Shielburn, Rapplawood, Greymuir Cairn. (4) Sites having had Stone Circles possessing a Recumbent Stone: Nether Corskie, Rapplaburn, Mains of Hatton, Corrydown, Pitglassie, Cairn Riv, Feith-Hill, Yonder Bognie, Cairnton and Rothiemay. (5) Circles of Standing Stones without a Recumbent Stone: East and West Circles at Backhill of Drachlaw, Raich, three small Circles at Logie Newton, and the Circle in Whitehill Wood, Ferglen.

¹ *Supra*, p. 124.

The current Report thus deals with forty-two sites. Putting aside those which are mere sites (seven in all) and the eleven Standing Stones, there is a residue of seven sites where only one or two Stones now remain to prove the former existence of a group; these being deducted, the result obtained is, that in all this extensive district there now remain but seventeen sites, of which it is possible to affirm that in ten the circle had a Recumbent Stone, and that in the other seven that marked feature was absent. And even of many of these it is not possible to state with accuracy either the number of the Stones or the diameter of the Circle.

It has also been shown that in the majority of examples the site selected is not on a conspicuous hill-summit. There is, for instance, no one Circle erected upon a summit commanding a prospect of many other Circles, as we found to be the case in a previous survey¹ at the Candle Hill of Inch.

The only examples of Circles placed upon specially conspicuous hills, *i.e.* conspicuous probably at the period of their erection, though now obscured by woods, are the two at Mill of Schivas and Whitehill Wood in Forglen. Of the former of these, nothing can be stated descriptive of its type; but of the latter, it is interesting to note that it is a small circle composed of not strikingly large Stones, and that it has no Recumbent Stone or other special feature.

In another respect this Report is lacking in interest, so few of the Circles have yielded any relics; in other words, there is no record of any relics being found, for the sufficient reason that the removal of Standing Stones, or the cursory examination of the ground enclosed by them, took place so long ago that no authentic account of such is obtainable. But it is certainly important to bear in mind that in the one instance of the Circle Cairn at Burrelloches, Rappia Wood, in which a careful excavation was made, the results went far to prove the sepulchral character of the site.

I append a Tabular Summary, in which the usual facts concerning the Circles are laid down.

¹ *Proceedings*, vol. xxxvi. p. 545.

TABULAR SUMMARY OF CIRCLES ABOVE DESCRIBED.

Survey No.	Locality.	Parish.	Diameters in Feet.	Peculiar Features.	Relics found.
7	Nether Carekin	Clunty	...		
10	Mill of Schivas	Methlick	190 x 90	The two Pillars <i>in situ</i> , (Re-	
13	Lagle Newton	Auchterless	East 18' 6"	cumbent Stone gone)	
			Middle 22' 9"	One Stone <i>in situ</i>	
14	Upper Thind	Fyvie	West 21' 6"		
16	Burreddales	"	180 x 80		
17	Burreddales	"	1120		
	Rapple Wood		About		
			50 x 50		
25	Garrydown	Auchterless	Probably	Standing Stones set round low	Three different forms of
			75 x 75	Cairn	interment; with an Urn
26	Mains of Hatton	"	About	Recurrent Stone	and a Bronze Blade.
27	Harestan, Feth-hill	Inverkeithing	47 x 67	" "	
			About	" "	
			60 x 60	" "	
28	Crofts of Shiel-	"	150		
	burn				
29	Backhill of	"	30 x 30	Very massive Stones	
	Drachlaw, E.				
30	Backhill of	"	130 x 30		
	Drachlaw, W.				
32	Cairn Riv	"	180 x 10	Recurrent Stone of unusually	In near vicinity, a Stone
				great dimensions	Axe-Hammer, Bronze
33	Greyknir Cairn	"	155		Armlets, Flint Chips,
34	Raich	Forgue	18 x 18	Large Stones set upon very dis-	and Button of Jet.
				tinged mound	
35	Yonder Bogula	"	71 x 71	Recurrent Stone	
36	Cairnton	"			
38	Rothiemay	Rothiemay	77 x 183	Recurrent Stone facing N. 50'	
				E. (N.)	
39	Whitehill Wood	Forglan	29 x 20	Small Circle of Standing Stones	
				on summit of conspicuous hill	

MONDAY, 9th February 1903.

DAVID MURRAY, LL.D., Vice-President, in the Chair.

A Ballot having been taken, the following were duly elected Fellows:—

Rev. DAVID JOHNSTONE, Minister of Quarff, Shetland.

W. C. MEWEN, M.A., W.S., 9 Douglas Crescent.

HUGH F. RANKIN, Principal of the Anglo-Chinese College, Amoy, China.

ALEXANDER WHITELAW, of Gartshore, Kirkintilloch.

The following Donations to the Museum and Library were laid on the table, and thanks voted to the Donors:—

(1) By A. H. MILLAR, F.S.A. Scot.

Casts of the Seal of the Burgh of Crail, and of the Seal of the Chapter of the Abbey of Coupar in Angus.

(2) By Sir FRANCIS TRESS BARRY, Bart., M.P., Hon. F.S.A. Scot.

Collection from the Sands of Luce Bay, Wigtownshire, comprising:—

Flint Implements.—Two leaf-shaped Arrow-heads; one hollow-based Spear-head; one Knife; eleven pointed Tools; two Saws; two Borers; two hollow Scrapers; thirty-one Scrapers; twelve Flakes, more or less worked.

Other Stone Implements.—Two whole and two broken Whetstones; three Whorls, one broken; one small ring of Slate; one small oval disc of Sandstone, with central depressions opposite each other.

Objects in Jet, etc.—Six fragments of rings or Bracelets of Jet; one Jet Bead, perforated; one globular Jet Bead, partly perforated; one Bead of Amber; one broken Bead of Mottled Stone.

Objects in Bronze.—Three flat strips of Bronze Mountings; two Strips, tubular; one Pin, with globular head.

Pottery.—Two Pieces, showing ornamented rims.

(3) By JOHN COWAN, W.S., F.S.A. Scot.

Flint Arrow-head, with barbs and stem, found at Ailick, Cluny, Perthshire.

(4) By ALEXANDER WOOD INGLIS, F.S.A. Scot.

Old Oaken Coffin, with brass mountings, hasp, and lock.

(5) By the TRUSTEES OF THE BRITISH MUSEUM.

Catalogue of Early Christian Antiquities in the British Museum. 4to. 1901.

Catalogue of the Works of Art bequeathed to the British Museum by Baron Rothschild. 4to. 1901.

Catalogue of Greek Coins: Lydia. 8vo. 1901.

(6) By CHAS. H. READ, F.S.A. Scot.

A Guide to the Antiquities of the Stone Age in the British Museum. By C. H. Read, Keeper of the British and Medieval Department of Antiquities. 8vo. 1902.

(7) By H. F. RANKIN, Principal of the Anglo-Chinese College, Amoy, through Dr A. M'GILLIVRAY, F.S.A. Scot.

Part of a Book in the Batak Language, Sumatra, probably relating to Magic.

The following Communications were read :—

I.

ON FORESTALLING, REGRATING, AND ENGROSSING—THREE FORMS OF TRADING PROHIBITED IN THE BURGHAL LAWS. BY SIR JAMES D. MARWICK, LL.D., F.S.A. SCOT.

Forestalling, regrating, and engrossing represent three forms of trading against which the mediæval laws of Continental and English, as well as Scottish, burghs were directed. But the progress of society, the facilities of intercommunication, the developments of trade and commerce, and the necessities of modern times, have long since shown these laws to be unsuited to the complicated conditions of present-day life. The stringent prohibitory legislation of past times has therefore either been repealed, or allowed, without express repeal, to fall into desuetude, and to become inoperative.

Still, such legislation not only throws a flood of light upon past conditions of society, but, when contrasted with those of the present time, illustrates, and to some extent explains, progress, and in that view may make the following observations not wholly uninteresting to the sociologist of the present day.

Forestalling, according to the laws both of England and Scotland, is the buying or bargaining for corn, cattle, or other articles of merchandise, on their way to fairs or markets for sale, with a view to selling the same again at a higher price.

In England this was a criminal offence, and was held to apply to practices tending to enhance the price of victuals or merchandise. It extended to the circulation of false rumours, and to the buying of things in a market before the usual hour.

Regrating was also a criminal offence, and originally consisted in the buying of provisions with a view to selling them again for gain, but in later times is confined to the buying and selling again in the same market, or within four miles of it.

Engrossing is described as the getting into one's possession, or the

buying up, of large quantities of corn or victuals for the purpose of selling them again,—so enabling one or more to raise the price of provisions at their own discretion.

These three offences are fully described by Sir George Mackenzie in his *Laws and Customs of Scotland in Matters Criminal*, Sect. xxiii.; Works, vol. ii. pp. 141-3. They were usually classed together as equally hurtful to the public, and against them in general several statutes were made. As regards several kinds of goods, prohibitory statutes were passed applicable to the particular circumstances of each. All these statutes, however, were repealed in England in 1771-2 by 12 George III. c. 71. The offences of forestalling, regrating and engrossing are, however, still punishable at common law by fine and imprisonment, and it has been held judicially that to forestall any commodity which has become a common victual and necessary of life, or is used as an ingredient in the making or preservation of any victual, though not formerly used or considered as such, is an offence at common law.¹

In Scotland the old law as to forestalling and regrating seems to have been substantially the same as in England, and was designed to secure that all the members of the community should not be prevented from obtaining the necessaries of life at reasonable rates. This crime, says Erskine,² was committed under the Roman law either by landlords who refused to sell the produce of their land at a just price, or by merchants who bought up great quantities of corn in the view of again

¹ "Our forefathers," says Mr J. E. Thorold Rogers, "in their market regulations were always anxious to ensure what I may call natural cheapness. They did not, except in some commodities—money, labour, and certain labour processes—attempt to fix the price of articles the plenty or scarcity of which depended on the abundance or the dearth of the seasons, for the sale of bread and ale contemplated the extremes of either cheapness or dearness. But they strove to prevent the artificial enhancement of price. Hence the offences of forestalling, that is, the purchase of corn on the road to market, and of regrating, i.e. the re-sale of corn in the same market at an increased price. The first offence was probably a double one; it lessened the dues of the market, as well as seeming to control supply. The second was thought to be an offence against the consumer" (*See Centuries of Work and Wages*, i. p. 143).

² Nicolson's edition of the *Institutes of the Laws of Scotland*.

selling it at a higher price, when the crop should be more scanty. The richer sort of these offenders were punished *relegations*,¹ and the poorer were condemned to the public works. In Scotland the laws of the Four Burghs,² which, with the exception of some manifest additions, were sanctioned by the Legislature as early as the reign of David I. (1124–1153), provided that “hukstaris” who bought and sold again for profit should not buy anything before 9 o’clock a.m. in winter and 6 o’clock a.m. in summer; and that wool, wrought or dyed, or other than white wool, or yarn, or such like, should not be bought or taken except during the time of a fair.³ Dwellers in King’s burghs, as well as *without*, were prohibited on market days from passing beyond the limits of the burgh to buy goods before these had entered the gates of the burgh.⁴ During the long reign of William the Lion (1165–1214) it was enacted that the merchants of the realm should have their merchant guild, and liberty to buy and sell in all burghs, but should not usurp the liberty each of the other, under pain of punishment in the Chamberlain ayre as a forestaller.⁵ In the Statutes of the Guild, again, which were first enacted for regulating the Guild of Merchants of Berwick in 1249, but were soon quoted as authoritative amongst the burghs of Scotland, it

¹ The *Relegatio* of the civil law was much similar to the punishment of transportation formerly imposed under our law on criminals. It was rarely a perpetual banishment, and did not deprive the exile of his citizenship (*civitas*) nor of his rights as one of a family (*familia*).

² The “Four Burghs” were those of Berwick, Roxburgh, Edinburgh and Stirling. But when the two first fell into English hands, Lanark and Lēalithgow were, by an Act of Parliament of David II. (6th March 1268) appointed to take their place (*Acts of the Parliaments of Scotland*, i. 149). In 1405 these burghs extended their constitution by appointing all the royal burghs south of the Spey to send representatives to the body; and in 1457 the constitution was further enlarged, all royal burghs being required, under penalties, to send commissioners to the burghal parliament (1457, c. 17 A.P.S., 279).

³ Sect. 68.

⁴ *Re.*, 72.

⁵ Sect. 39. The Great Chamberlain was one of the Great Officers of the Crown, first appointed, probably, in the reign of David I. He had the general control of the Treasury, and exercised also administrative and judicial functions in regard to burghs, which received a defined constitution in the reign of David.

was enacted that if any one should buy herrings or other merchandise, such as salt, corn, beans or peas, giving arles, he should pay the merchant from whom he bought the stipulated price without "felling," i.e. breaking contract.¹ Another statute of the Guild, made in 1283, prohibited butchers going beyond the town to meet beasts coming to it to be sold, between Martinmas and Christmas; it also prohibited (1) their buying beasts in the market before dinner on any day within the same period; and (2) their fraudulently procuring beasts to be kept for themselves till after dinner. Violation of these orders involved deposition from their trade for a year and day.² The *Articuli Inquirandi in Itinere Camerarii*—or List of points to be enquired into by the Chamberlain in his ayre—which appears to be of the last half of the reign of Robert I., ending in 1329, appointed enquiry to be made as to whether any man forestalled the burgh by sea or land. And the document known as the *Modus Procedendi in Itinere Camerarii*—or form of proceeding in Chamberlain ayre—which is apparently of the end of the fourteenth century, referring to regraters, directed it to be ascertained (1) whether they bought goods before the lawful hour, i.e. "prime in summer and the third hour in winter"; and (2) whether they bought goods outside of the burgh; and (3) whether they used false measures.³ Another capitular known as the *Iter Camerarii*, which is apparently of the end of the fourteenth century, and contains further Forms of Procedure connected with the Chamberlain ayre, required enquiry to be made as to whether hucksters forestalled the burgh with wool, hides and skins, meal and malt;⁴ and whether any persons forestalled the burgh, buying or selling beasts, or any other goods.⁵ A record of statutes which, according to Sir John Skene, were passed in the court of Four Burghs held at Stirling in 1405, but which Professor Innes, who edited the first volume of the folio edition of the Acts of the Parliaments of Scotland, observes has no other authority for its date than that of Sir John—declares that no man of whatsoever estate may re-pledge his man

¹ *Ibid.*, sect. 28.² Sect. 44.³ Sect. 19.⁴ Sect. 21.⁵ Sect. 29.

for forestalling from the court of the burgh, or the Chamberlain ayre, except he who had a burgh near adjacent, possessing privilege in such causes in old time.¹

It thus appears that, from the earliest times in Scotland of which any record exists, regrating—comprehending apparently forestalling and engrossing—was recognised as hostile to the interests of burghal communities, and was severely punishable.

The later legislation of the Scottish Parliaments directed against these practices was equally condemnatory, and the preambles of many of these acts afford glimpses of the social condition of the times at which they were enacted. Thus, an act passed by a parliament of James III., held on 11th December 1482, proceeds on the preamble that for the common profit of the realm, and to encourage strangers from other realms to come with victuals and needful merchandise for the support of the lieges, such strangers should be treated honourably, with all favour, when they arrived at any port in the kingdom; it prohibited the king's officers and lieges from troubling such visitors, or from putting them or their ships or goods under arrest; and it gave full liberty to dispose of these goods by sale to free men, without compulsion, at prices to be fixed by the sellers; it prohibited the imposition or exaction of new customs upon their goods, and the regrating or re-sale of such goods, under pain of banishment.² In 1535 forestallers were

¹ *Ibid.*, sect. 1.

² 1482, c. 10 A.P.S., ii. 144. Five convictions of breaches of the law by buyers of meal, with a view to sale again at increased prices, are mentioned by Hume as on 5th June 1558, but no punishment is mentioned in the record as having followed (*Commentaries on Crimes*, i. p. 504). In anticipation also of the holding of a justice ayre in Edinburgh, on 25th November 1508, a proclamation was made, *inter alia*, to the effect that no victuals be sold of a price dearer than it was eight days before the coming of the king to the town, under pain of excheat of the victuals, and punishment of the persons of the sellers, and that victuals be brought to the market for ready money (*ibid.*).

In a record of another justice ayre, held at Edinburgh on the 8th of February 1510, eight persons were convicted of oppression by committing various offences of the same kind. They appear, however, to have compounded with the Treasurer, and to have obtained a remission *quoad ultra* (*ibid.*, p. 505).

prohibited from buying victuals, such as flesh or other stuff, until it had been presented in the market, within specified hours, under prescribed penalties,¹ and that act was explained, ratified, and made applicable to coupers, i.e. dealers or chafferers, by 1567 c. 54.² In 1540 an act of parliament for eschewing of dearth of victuals, flesh and fish, prohibited all persons from buying fish to pik or peile, save within specified hours, and all persons, merchants and others, from exporting white fish, but it empowered strangers to come and buy fish from merchants and freemen of burghs with "ready gold and silver," or by bartering their merchandise with such merchants, or the owners thereof, for the sustentation of their houses only. Such persons as had fish packed or peiled, were required to be ready at all times to sell the same to the lieges for sustaining their houses and the country, under pain of confiscation. Provosts, aldermen and bailies of burghs were required to visit the markets on every market day, and set a price on fish, and to enquire whether any persons gave arles, or money on any kind of fish that came to the market, with a view to its being sold at a higher price. Such persons as did so were appointed to be punished as coupers, forestallers and regraters.³ Another act directed forestallers of any kind of merchandise, victuals, poultry or goods, to be apprehended, and their goods escheated, one half to the King's use, and the other half to the burgh.⁴ On 26th June 1546, the privy council ordained a bailie of Edinburgh and four other persons to go to Leith, and see that victuals imported by a ship were sold to the lieges on the south side of the Forth, without regrating or selling in bulk to any persons; and that rye and wheat, so imported, were sold at a price not exceeding 25s. a boll as regarded rye, and 40s. a boll as regarded wheat (Privy Council Register, i. 30). In 1551, the previous acts against regraters and forestallers of markets were appointed to be observed.⁵ On 23rd February 1551, the Privy Council directed a commission under

¹ 1535, c. 26 A.P.S., ii. 347.

² 1540, c. 16; *ib.*, ii. 373.

³ 1551, c. 24 A.P.S., ii. 433.

⁴ A.P.S., iii. 41.

⁵ 1540, c. 32; *ib.*, ii. 376.

the Great Seal to be issued to Francis Tennent, provost of Edinburgh, constituting him justice in that part for one year, with power to convene all maltmakers, etc., regraters of victuals, etc., and all other regraters of wines and stuff, dwelling within four miles of Edinburgh, to hold courts for the trial of offenders, and to bring into the Crown the escheat of persons convicted of these crimes.¹ On 10th June 1553, the Privy Council appointed the acts of parliament against forestallers and regraters to be put to execution, and letters to be directed to all parts of the realm requiring publication of these acts at all places needful six days before each fair. The provost, aldermen, and bailies of every burgh and town in which fairs or markets were held, were also required, six days before each fair day, to send out searchers and visitors to see if regraters attended these fairs and markets. Failure to observe this order was appointed to be punished by tinsel of the offices of provost and bailies, and a fine of £100 Scots, to be applied towards the King's use.²

On 18th September 1555 the Convention of Burghs prohibited the freighting of ships by forestallers and unfreemen, and prescribed the mode in which they should be freighted.³ In 1579 an act of parliament ratified all acts against forestallers and regraters of victuals, flesh, poultry and other vivres coming to market, and constituted the provosts, aldermen and bailies of royal burghs justices for executing these acts within their respective jurisdictions.⁴ In July 1580 the Convention of Burghs required the burgh into which a forestaller had fled to deliver him up to the burgh from which he had come,⁵ and also appointed the acts of parliament against regraters and forestallers to be enforced.⁶ On 5th July 1587 the Convention adopted certain articles to be submitted to the approaching Parliament, and, *inter alia*, desired the ratification of the statutes anent coupers and forestallers, and gave a special description of their offences.⁷ The act of 1587 c. 38 ordained all acts

¹ P.C.R., i. 115.² P.C.R., i. 142.³ Convention Records, i. 12.⁴ 1579, c. 26 A.P.S., iii. 146.⁵ *Ib.*, i. 29.⁶ Convention Records, i. 103.⁷ *Ib.*, i. 240.

against regraters and forestallers to be published of new, and put to due execution.¹ On 27th January 1587-8 the Privy Council prohibited for a year the exportation of herring, the supply of which was insufficient for the requirements of the lieges.² In order to define what was meant by forestalling and regrating, the act 1592 c. 70³ ordained that whoever bought or caused to be bought any merchandise, victual or other thing, coming by land or water to any fair or market in burgh, or in landward, to be sold in the same, or whoever made any contract or promise for the having and buying of the same, or any part thereof, before it was in the fair or market place in burgh, port or roadstead, ready to be sold; or whoever made any motion by word, writing or message, for raising the prices, or dearer selling of any of the things abovementioned, or dissuaded or moved any person coming to the fair, market, or town, from bringing to it any of the things abovementioned, should be deemed a forestaller. And whoever got in his possession, in a fair or market, any corn, victual, flesh, fish, or other wivers, brought for sale, and sold the same again in any fair, or market, held in the same place, or in any other fair, or market, within four miles thereof, or who got into his hand, by purchase, contract, or promise, the growing corn on the field, should be reputed a regrater. Moreover, because so little effect had followed in the execution of previous acts by the magistrates of burghs to whom the execution thereof was committed, the Lord Treasurer or Advocate was empowered to anticipate action by the magistrates and to sue all persons suspected of forestalling and regrating. In the event of such action being taken by the Lord Treasurer or Advocate, the right of magistrates of burghs to

¹ 1587, c. 38 A.P.S., III. 452.

² P.C.R., IV. 243. At this time, these acts seem not to have been rigidly enforced, for Hume states that while there were many instances of the prosecution of forestallers and regraters, few convictions were obtained; and of those on record some appeared not to have been followed by any sentence. On 15th May 1588, however, two men were convicted and fined for forestalling cattle and sheep, and keeping them up to a dearth (*Commentaries on Crimes*, I. p. 304).

³ A.P.S., III. 576-f. This statute, says Hume, "is a literal transcript of the English statute 5 and 6 Edward VI, c. 14" (*Commentaries on Crimes*, I. 303).

repledge any person so challenged was excluded. Persons convicted by an assize for common forestalling and regrating of markets were subject for the first fault to a fine of £40 Scots, and required to find surety to abstain in future under pain of one hundred merks. For the second fault, the offender and his surety were to be liable to pay one hundred merks; and for the third fault, the offender was to come under the will of the Sovereign and to forfeit all his movable goods to the Crown. For the trial of these offences justice courts or ayres were to be held twice a year. And to facilitate a conviction the statute allowed the accused to be sent to an assize, on a general charge of being habit and repute a common engrosser or regrator, without any more special challenge.¹ On 13th June 1592, the Convention found that the most part of the burghs were greatly hurt by, *inter alia*, forestallers, regraters, and others, unfreemen having their residence outwith free burghs, usurping the lawful trade of freemen by selling staple wares, and keeping open booths in landward towns, villages, and burghs of barony, and sailing furth of the country with staple goods, to the injury of the trade of merchandise and the decay of burghs. To remedy this condition of matters, the magistrates and inhabitants of burghs were required to report to the general agent of the Convention the names of persons who so usurped the liberties of the burghs, with a view to prosecution.²

¹ Four years after this statute was passed, viz., on 9th June 1596, two men were convicted of forestalling and regrating in corn; but Hume states he had not found that any punishment ensued. On the 12th of the same month, several persons were accused as regraters, on the single ground of buying corn as merchants in order to sell again; that being "according to the prosecutor's creed" unlawful for any but maltsters and dealers in meal. The panels answered ("and certainly with reason" says Hume) that corn is a lawful subject of merchandise, if trade is not carried on by forestalling and regrating; that otherwise all transportation of corn from the remote parts of the country must cease, since none but merchants will be at the trouble, or even the hazard. The Justice, however, "found the summons relevant," and some of the panels were convicted, but no sentence appears on the record. Nor is any sentence marked in the case of several others who were convicted on the 25th of the same month of forestalling and regrating in the article of corn. (Commentaries on Crimes, i. 504).

² Con. Rec., i. 371.

In 1594 an act of parliament ratified all previous statutes relating to the punishment of regraters and forestallers, and ordained them to be put to full execution.¹

On 30th June 1595 the Convention of Burghs, taking into account the injury done to their estate by the number of regraters, forestallers and coupers in all parts of the country, who contravened the acts both of parliament and burghs against these offences, ordained the general agent to obtain a commission from the Lords of Session to certain judges to enforce these acts, and if such a commission could not be obtained, instructed him to institute proceedings against offenders.² And on the 1st of July thereafter the Convention, considering the increasing dearth of provisions occasioned by forestalling, regrating and coupling, prohibited these practices under specified penalties, and required the magistrates of burghs to enforce the acts of convention.³ On 2nd July 1596, the Convention, considering the increasing dearth and the injury occasioned by the increase, *inter alia*, of forestalling, ordered each burgh to put the acts against it and other offences into execution, and to report its proceedings to the next convention. The burghs were also ordered to report the names of offenders to the agent in order that prosecutions might be instituted against them,⁴ and three days afterwards the Convention, understanding that the fairs and markets of free burghs, and specially those of Aberdeen, were resorted to by forestallers and regraters who falsely represented themselves to be burgesses and freemen of burghs, required all merchant burgesses of every burgh who attended free markets and fairs to produce evidence of their being burgesses of and actual residents in the respective burghs, or the servant of such burgess, and failing their doing so they were to be subject to punishment

¹ 1594, c. 76 A.P.S., iv. 86.

² *Con. Rec.* i., 462.

³ *Ibid.*, p. 467. On 11th November 1595-6, Hew Campbell of Lowdon, Sheriff of Ayr, represented to the Privy Council that two commissions of justiciary had been granted—one to Lord Ochiltree and the other to Wallace of Craigy—against regraters and forestallers in Ayrshire, and that, in the execution of these, disorder had arisen. These commissions were therefore discharged (P.C.H., v. 281-283).

⁴ *Con. Rec.*, p. 476.

as regraters or forestallers.¹ This act was ratified at the following Conventions held on 5th July 1597² and 1st July 1598.³ On 2nd January 1598-99 the Privy Council passed an act providing a remedy for the dearth of poultry and other vivres in Edinburgh and sundry parts of the realm, and requiring one or two bailies of every burgh to visit the market and establish measures for punishing transgressors, having for their pains one half of the penalties recovered.⁴ At the Convention held on 3rd July 1599 the acts of 1597 and 1598 were re-affirmed, and Peebles was fined £20 Scots for failure in doing diligence to enforce them.⁵ At the Convention held on 13th June 1600⁶ and 5th July 1602 these acts were re-affirmed.⁷ The Convention held on 5th July 1603 fined the burghs of Wigtown and Kirkcudbright for failure to enforce this act;⁸ and the following Convention, held on 3rd July 1604, modified the fine previously imposed on Kirkcudbright, and imposed modified fines on Dumfries and Laner for similar failures.⁹ The Convention held on 1st July 1605 re-affirmed the previous acts, and on the following day ordered Wigtown to follow out proceedings which it had commenced against regraters, etc.¹⁰ These acts were renewed by the Convention on 7th July 1606.¹¹ On 6th January 1607 the Privy Council passed an act for abating the fictitious scarcity and exorbitant prices of fowls, wild and tame, in Edinburgh, by fixing the prices of these for the

¹ *Con. Rec.*, pp. 486-7. On 18th March 1596-7, on a complaint by Ludovick Duke of Lennox, Sheriff Principal of Dumbarton, the Privy Council suspended a commission of justiciary against regraters and forestallers in Dumbartonshire granted to John Buchanan of Couston (*P.C.R.*, v. 373).

² *Con. Rec.*, li. 5.

³ *Ib.*, p. 25.

⁴ *P.C.R.*, 511, 512.

⁵ *Con. Rec.*, li. 44. On 19th February 1600 a commission of justiciary against regraters and forestallers, granted to John Robertson and Robert Arnote, on 21st December 1599, was annulled (*P.C.R.*, vi. 82, 83).

⁶ Sundry commissions of justiciary procured against forestallers and regraters of markets having been used for the benefit of the grantees, and not for the public benefit, all commissions of that nature were, by act of the Privy Council, dated 2nd October 1601, discharged, and publication of the discharge was ordered to be made at the market crosses of the head burghs (*P.C.R.*, vi. 291).

⁷ *Con. Rec.*, li. pp. 74, 128.

⁸ *Ib.*, 155.

⁹ *Ib.*, pp. 173, 174.

¹⁰ *Ib.*, pp. 196, 199.

¹¹ *Ib.*, p. 250.

future, and providing for the punishment of forestallers of the poultry market and other offenders.¹ On 5th July 1608 the Convention ordained Renfrew to follow out certain proceedings against regraters and forestallers,² and on 4th July 1609 not only renewed these acts, but dealt specially with Perth, Dysart, Inverkeithing and Cupar in relation to them. The Convention held on 3rd July 1610, "having examined the diligence of the most part of the burghs" who had regraters and forestallers within their bounds, renewed their former acts in relation to these offences.³ A similar course was followed on 2nd July 1611, 7th July 1612, and 6th July 1614, and various burghs were ordered to produce their diligences against offenders.⁴ At the Conventions held on 4th July 1615, 2nd July 1616, 1st July 1617, and 7th July 1618, all the burghs were ordered to produce in writing at the next Convention exact diligence in punishing and restraining, *inter alios*, regraters and forestallers.⁵ In 1617 also Parliament passed an act defining the duties of Justices of the Peace and their constables, who by sect. 10 were required to inform the Privy Council and the treasurer and advocate, at least once a year, as to forestallers and regraters of markets that order might be taken with them.⁷ The Convention held on 7th July 1618, 8th July 1619, and 4th July 1620, renewed its acts of 1613 and 1617 against regraters, etc.⁶ At its meeting on 4th July 1621 the Convention passed an act in which, referring to the great injury sustained by the free burghs by the great number of forestallers forestalling their goods before these were presented to the market, it ordered every burgh to punish such of its inhabitants as forestalled any market.⁸ On 8th August 1628 commis-

¹ P.C.R., vii. 293. ² Con. Rec., ii. 250. ³ *Ib.*, pp. 273-274. ⁴ *Ib.*, p. 288.

⁵ *Ib.*, pp. 310, 342, 447. On 23rd April 1615 the Privy Council issued an order against forestalling the market of wild and tame fowl, etc., during the King's stay in Edinburgh and for giving the first choice in the market to the King's caterer (P.C.R., xi. 107).

⁶ Con. Rec., iii. 3, 18, 36, 54.

⁷ 1617, c. 8 a. 10 A.P.S., iv. 537.

⁸ Con. Rec., iii. 54, 85, 99.

⁹ Con. Rec., iii. 117. On 22nd November 1623 the Justices of Peace of Dumfriesshire found that the greatest grievance the country had was from forestallers, regraters and maltmakers (P.C.R., xiii. 831).

sions of revived justice ayres were nominated by the Privy Council, and the times and places for holding the ayres were fixed. Instructions were at the same time given to the commissioners as to, *inter alia*, the crimes to be dealt with, and among these were forestalling and regrating.¹ On 28th September 1639 an act against regraters and forestallers was passed in the Articles.² On 5th July 1655 a complaint was presented to the Convention, setting forth that several burgesses of free burghs, frequenting free markets and public fairs in these burghs, not only bought their goods there, but sent them to the country, never suffering them to go to the public market towns, thus not only greatly injuring the burgh in which the market was, in its custom and charge, but also raising prices to the loss of those who frequented the market. Such practices were therefore prohibited, and burgesses of free burghs, and all others, were required not to buy commodities at any time elsewhere than in the towns in which markets were held, and in the market place of free burghs, under penalties.³ In instructions to Justices of the Peace issued by the Scottish Council of the Lord Protector on 12th November 1655, these justices were directed to put in execution the acts of parliament in regard to forestallers and regraters of markets.⁴ The act of 5th July 1655 was referred to in the Convention held on 4th July 1656, and was appointed to be put into execution by the whole burghs, "that such forestalling" might be prevented.⁵ An Act of Parliament, passed in 1661 for erecting of manufactories, discharged all regraters and forestallers of markets of wool, and enacted that no merchant or person should buy and keep up wool to a dearth, but should buy it to be sold in open market, under the pains set forth in the statutes against forestallers.⁶ In a commission and instructions to justices of the peace and constables, issued in 1661, they were required, as in 1617, to report at least once a

¹ P.C.B., ii., 2nd series, p. 437.

² Con. Rec., iii. 405.

³ *Ib.*, iii. 429.

⁴ A.P.S., v. 694.

⁵ A.P.S., vi., li. 434, s. 12.

⁶ 1661, c. 280 A.P.S., vii. 261, 262.

year as to forestallors and regraters of markets, with a view to punishment.¹

These statutes, however, are now, and have long been, in desuetude, and were held to be so in the case of *Leishman v. the Magistrates of Ayr*, 8th March 1800.² In that case a warrant granted by a sheriff, authorising magistrates, in a period of scarcity, to seize and sell, at the market price, oatmeal purchased from farmers by a dealer, and meant by him to be carried out of the county, was held to be illegal, and the court expressed strong disapprobation of every interference of magistrates and judges with the free circulation of the necessaries of life, as such interference, instead of diminishing, would increase scarcity, and produce a famine in large towns. It is not easy, it was said, to figure a case of such urgency as to justify a warrant of the nature complained of. When anything of the kind is apprehended, application should be made, not to the judge ordinary, but to Parliament or the Privy Council. At the same time it was held that the purchases complained of had no connection with forestalling and regrating, which, it was added, are well defined by Mr Hume on Crimes, ii. 403.³

Professor Thorold Rogers thus summarises the criticism of these obsolete statutes. To forbid traffic in articles of prime necessity, he says, is to encourage waste when plenty prevails, to induce famine when dearth is near. The corn dealer equalises supply, and if by withholding

¹ 1661, 338; A.P.S., vii. 306, 308. Besides the laws against forestalling and regrating, says Hume, the policy of former times shackled the commerce of the lieges with many other and more vexatious restraints, which were enforced by fines and confiscations, and in some instances by more severe penalties. Accordingly, there are instances in the record, from time to time, of prosecutions for such offences as these: the transporting of tallow furth of the kingdom; the selling of linen, cattle, etc., to the English; and the enhancing of the price of malt. But, says Hume, writing in 1819, it would serve no purpose to enlarge on these points of dittay, which were long ago thrown out of the criminal code by the great change which has taken place in the condition of the country, and the habits and opinions of our people on subjects of this sort (*Commentaries on Crimes*, i. p. 505).

² Faculty Decisions, xii. 391.

³ See footnotes, pp. 149, n. 2; 152, n. 2; 153, n. 1; 155, n. 1.

his corn from market he makes it dearer, he also makes it cheaper than it would be by bringing it out when it otherwise would be scarce. Now this, he continues, is certainly true. But though our forefathers doubtlessly erred in making these practices an offence, they did not compel sales, and I find that producers were very acute during the Middle Ages, and for the matter of that, buyers, too, in doling out their supplies to the market, or in making purchases, according to their interpretation of the amount in hand or available for sale. The most critical sales of the year are those effected in early summer, when the amount of the last year's produce is known pretty correctly, and the prospects of the ensuing harvest can be fairly guessed. The Englishman of the Middle Ages disliked intermediaries in trade, and strove to dispense with them as far as possible. He did his best to buy all his goods at first hand.¹ In this respect there seems no reason to doubt that Scotsmen followed a similar course.

¹ *Six Centuries of Work and Wages*, I. 143-4.

II.

NOTES ON THE ANCIENT BURGH SEAL OF CRAIL, AND THE SEAL OF THE CHAPTER OF THE ABBEY OF COUPAR. BY A. H. MILLAR, F.S.A., Secy.

The antique instrument used for impressing the ancient burgh seal of Crail was accidentally discovered in August 1902 within an old house in that burgh. Mr James Meldrum, joiner, Crail, had purchased a ruinous tenement in Castle Street, Crail, which had at one time been used as a post office. While the house was in process of demolition the seal was found. It had been laid upon the top of the main wall, immediately under the sloping roof, evidently with the purpose of concealing it. There is a tradition that one of the old burgh seals of Crail which had been superseded was lost more than a century ago; and it is not unlikely that the apparatus now discovered is the missing seal. In any case, the right of the Town Council of Crail to this seal was indisputable. It was claimed by the town-clerk, and has been placed for safety in the charter-room of the burgh.

The seal (fig. 1) is worked on the same principle as the modern copying-press. The base consists of an oblong block of oak (very much worm-eaten) measuring 7 inches by $6\frac{1}{2}$ inches, and $1\frac{1}{2}$ inch thick. On the under side and on the top of this block there are corresponding bands of iron, $\frac{1}{2}$ inch broad, sunk flush with the surface, and running parallel with the block across its smaller measurement. The standard which holds the screw is fixed through these iron bands, and is set diagonally across the block. It stands two inches above the surface of the block, and is made of iron, ornamented in the centre by a series of small panels, each decorated with a conventional thistle. The screw which works in this standard is $2\frac{1}{2}$ inches long and $\frac{1}{2}$ inch in diameter, and has a deeply-cut square-faced thread. It is finished with a square bolt-head, intended to be operated by a lever, crank, or key of some kind. In the centre of the oak block there is inset the copper die or matrix for the reverse of

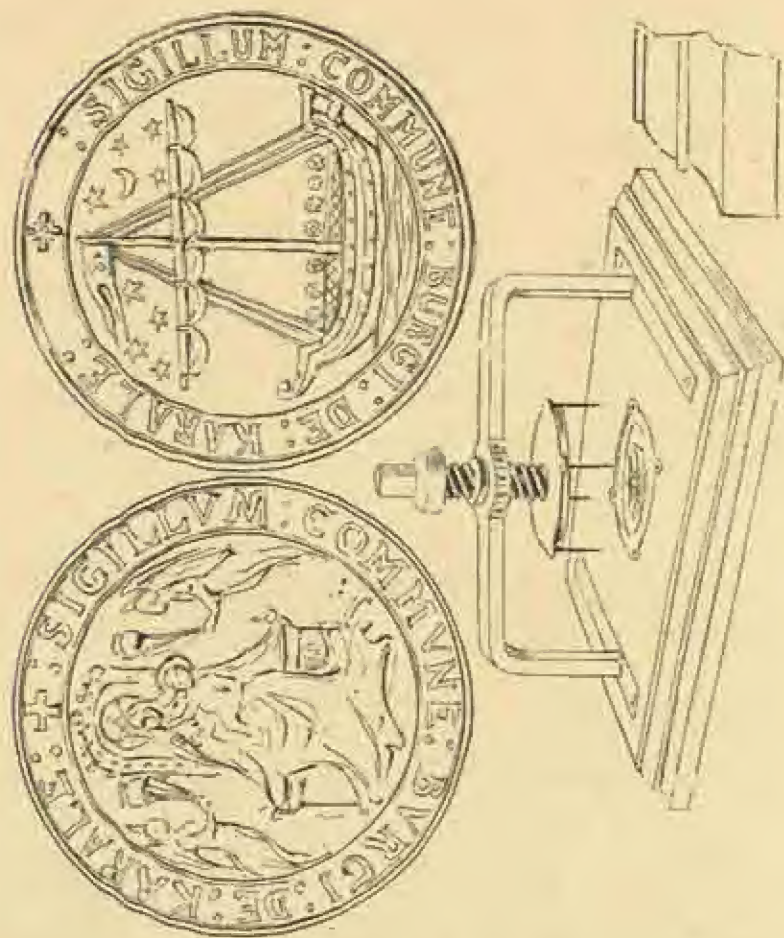


Fig. 1. Seal of the Burgh of Crail. Discovered at Crail, August 1862.

the seal. The corresponding obverse die consists of a plate of copper $\frac{3}{16}$ inch thick, with four perforations forming a square on the circle. Through these perforations four iron pins are passed, and these again are riveted into a circular iron disc, against which the screw exerts downward pressure when worked by the lever. When a double impression is to be taken, the disc with the copper die is put in position with the four pins set in corresponding holes in the block, and then the turning of the screw drives the one die towards the other, and an impression is given on the intervening wax placed between the dies. The moulding around the block shows that the apparatus is of an ancient date. The impression measures $2\frac{1}{4}$ inches within the outer enclosing circle.

The devices on the double seal of Crail are of very great interest. The obverse shows the Virgin and Child, and the reverse has a galley. The former was evidently used in pre-Reformation times, while ecclesiastical power was still exercised in the Scottish burghs. Dundee had a seal with the Virgin and Child on obverse, that was discontinued after the Reformation; so Crail, which was the site of a collegiate church of St Mary, seems to have abandoned the ecclesiastical die of the double seal, and to have used only the secular device of the galley. The legend around each of the dies is "*Sigillum Commune Burgi de Karale*." In my work entitled *Fife: Pictorial and Historical*, the following passage refers to this seal:—

"The seal of the burgh of Crail has been in use for many centuries, and evidently suggests the early prosperity of the place as having been attributed to its maritime importance. The oldest impression of this seal known to exist is now preserved in the Chapter House at Westminster, and was appended on 26th September 1357 to the important document whereby the leading Scottish burghs became bound to supply to Edward III. the ransom demanded for David II. It is thus described:—*Obverse*—The Virgin seated on a bench with the Holy Child in her lap; an angel swings a censer on each side. *Reverse*—A large galley, clinker built, with dragon-head, one mast and large yard with close furled sail and cordage. On deck a netting is stretched, over which six or more heads appear; a crescent in upper sinister of angle of yard."

The late Marquis of Bute, in his elaborate work entitled *The Arms of the Royal and Parliamentary Burghs of Scotland*, published in 1897,

devotes much space to the seal of Crail. He suggests that the seven figures, whose heads are shown above the gunwale of the galley, should be described as "naked marinere," the nudity of the seamen in the seal of Pittenweem being especially marked. The stars are different in number in the two seals of the burgh now used. The large seal has one star with the moon on the sinister side, and four stars on the dexter side; but the smaller seal has four stars on each side of the mast. Referring to the obverse, Lord Bute quotes from Aistle and Henry Laing, also giving the above quotation from *Fife: Pictorial and Historical*. It should be noticed that the angels with censers, shown at each side of the Virgin, are swinging these censers, not in the Roman but in the French manner. This was characteristic in Scottish seals before the Reformation, and is especially noticeable in the early seal of Dundee, which bears the figures of St Mary and attendant angels. The facts that the seal now discovered corresponds in every detail with the oldest extant impression—that of 1357—and that it retains the ecclesiastical matrix, seem to indicate that it belongs to a date earlier than 1550. The matrices may have been preserved, and mounted upon the apparatus with the screw at a later date.

Seal of the Chapter of Coupar Abbey.—The Abbey of Coupar-in-Angus was founded by Malcolm IV. on 12th July 1164, and was occupied by Cistercian monks. According to Keith (*Catalogue of Bishops*, p. 257) this date is given by Matthew Paris, and confirmed by Angelus Manriquez, the historian of the Cistercian Order. The abbey buildings must have been of considerable extent at one time; but after the Reformation the abbey was demolished, and its stones were freely used for secular buildings in the neighbourhood. Many of the kings of Scotland were munificent benefactors of this foundation, among them being Alexander II., Robert I. and Robert II., and on several occasions the abbey was used as a royal residence, notably by Mary Queen of Scots in 1562, shortly before its demolition. Next to the kings, the Hays of Errol were the most generous donors, their gifts beginning in 1170 and continuing till the middle of the sixteenth century. William

de la Haya gave lands in the Corse of Gowrie to this abbey in 1170, and selected it as the burial-place of his descendants; and in 1585 the seventh Earl of Errol was buried here, being the fifteenth head of the race interred in the family sepulchre. The lands were secularised after the Reformation, and on 20th December 1607 James VI. conferred them upon James Elphinstone, second son of Secretary Elphinstone, Lord Balmerinoch, with the title of Baron Coupar. He died in 1669 without issue, and the estates fell to his nephew John, third Lord Balmerinoch. Arthur, sixth Lord Balmerinoch, was executed as a rebel in 1746, and the estates were forfeited to the Crown.

Henry Laing, in his *Catalogue of Seals*, describes an impression from the Seal of the Chapter of Coupar Abbey, which he found in the possession of the late Sir James Gilson Carmichael about sixty years ago. The following is Laing's description:—

"Seal of the Chapter of the Abbey of Coupar-in-Angus:—A rich design. Within a Gothic niche a figure of the Virgin, sitting, holding in her right hand a branch of lilies, and her left hand supporting the infant Jesus, standing on the seat beside her; in the lower part of the seal, within an arched niche, an Abbot in front, with a crozier, kneeling at prayer; at the sides of the niche are two shields, the dexter one bearing the arms of Scotland, the sinister, three escutcheons, being the bearings of Hay. Inscription around seal:—*'S. Communi Capitulli Mon. de Cupra'* Common Seal of the Chapter of the Monastery of Coupar. The date of the impression is A.D. 1532."

This is the only description of the seal by an expert with which I am acquainted. In October 1902 Mr Richard Morrison, dealer in antiquities, Dundee, brought to me for inspection a brass seal which I was able to identify as the Capitular Seal of Coupar Abbey. It is an oval or vesica seal (fig. 2) made of brass, the face measuring $1\frac{1}{8}$ inches by $2\frac{3}{8}$ inches. The matrix in every way corresponds with Laing's description, the only dubious part being the kneeling abbot between the two shields, which requires very close examination. The seal block is surmounted by a figure of the crowned Virgin holding the infant Jesus in her arms, the figure being cast in brass so as to form the handle of the seal. The total height of this figure is $4\frac{1}{4}$ inches, and its greatest

breadth is $1\frac{1}{4}$ inches. About twenty years ago the seal was in the collection of the late Mr G. B. Simpson, Dundee. From him it passed to the



Fig. 2. Seal of the Chapter of Coupar Abbey.

late Mr C. C. Maxwell, Dundee, at whose sale in 1901 it was purchased by Mr Richard Morrison. In October 1902 the seal was acquired by Lady Abercromby, Campendown House, Dundee.

[The Society is indebted to Mr A. H. Millar for the use of the blocks of the seals described in this paper.]

III.

NOTICE OF A COLLECTION OF PERFORATED STONE OBJECTS, FROM
THE GARIOCH, ABERDEENSHIRE. By J. GRAHAM CALLANDER,
F.S.A. Scot.

Many perforated articles of stone of greater or less antiquity have been found, the use of which we have no difficulty in defining. Among such articles are stone axes, stone hammers, whorls, beads, and sink-stones for nets or lines; but this collection of perforated stones from Central Aberdeenshire seems to be quite different from any of the recognised types.

Localities.—The collection, which consists of sixty-five specimens, has been gathered during the last five years in the Garioch district of Aberdeenshire from eight different localities in five parishes:—Eleven are from Newbigging, parish of Culsalmund; one is from the Kirkyard of Culsalmund; five are from the adjoining farms of Jericho and Colpy, Culsalmund; two are from Johnstone, parish of Leslie; one is from Cushieston, parish of Rayne; one is from Lochend, Barra, parish of Bourtie; three are from Harlaw, parish of Chapel of Garioch; and forty-one are from Logie-Elphinstone estate, also in Chapel of Garioch.

All the specimens have been turned up by the plough, none having been found associated with burials or dwelling sites; at the same time many flint implements have been found in most of the localities named, especially in the first, third, and last-mentioned ones, these, I believe, having been more thoroughly searched. The Logie-Elphinstone district, which has produced about two-thirds of the collection, has been found to be very rich indeed in prehistoric remains, many urns, stone axes, hammer stones, arrowheads, and other flint implements having been recovered.

Description.—The materials out of which they have been made are usually slate and the common "heathen" stone, which is found scattered all over the fields. Slate is plentiful, the Foudland Hills on the N.W. boundary of the Garioch being composed of this material. Very few of the specimens have been made from water-worn stones. The smaller

ones, which are usually made of slate, have been dressed flat on both sides and ground round the periphery, and the larger ones, which are made of various kinds of stone, have been chipped into the requisite shape. Some of the latter, however, are naturally fractured stones, the only artificial work on which is the perforation.

With the exception of four of the specimens, which are bored near the end, the perforations are all at or near the centre of the objects. The holes, which are generally bored in the smaller specimens, and are picked out in the larger ones, have been made from both faces. In the majority of cases the perforation goes through the object at an angle, the centre of the bore on one side not being exactly opposite the centre on the other side. Several of the specimens show the perforation begun and not finished. In fifty-three specimens the making of the hole has been completed, twenty-seven having been bored and twenty-six having been picked out, while in eleven specimens the hole has been commenced but not finished. In four of these eleven cases the process has been by boring, and in seven by picking out. One specimen, No. 12, has been neatly brought to the required thickness and ground round the circumference to an almost circular shape, but there is no sign of the perforation having been begun. This one, along with No. 13, which has been brought to the required shape, and in which the boring of the hole has been commenced, seem to show that the making of the hole had usually been left to the last; one specimen, however, No. 15, which has the perforation complete and which is rather irregular in shape, seems to have a circular marking across one of the projecting angles, as if it had been intended to reduce it to a circular shape, in which case the making of the hole was apparently the first and the shaping of the article the last process. The specimens with the unfinished perforations show that when the perforating was commenced by boring it was finished by boring, and when it was commenced by picking it was finished by picking. The two processes were therefore not employed in making the same hole. It is impossible to say which process is the older. In two of the groups, into which we have divided the collection, and which are composed of the smaller and

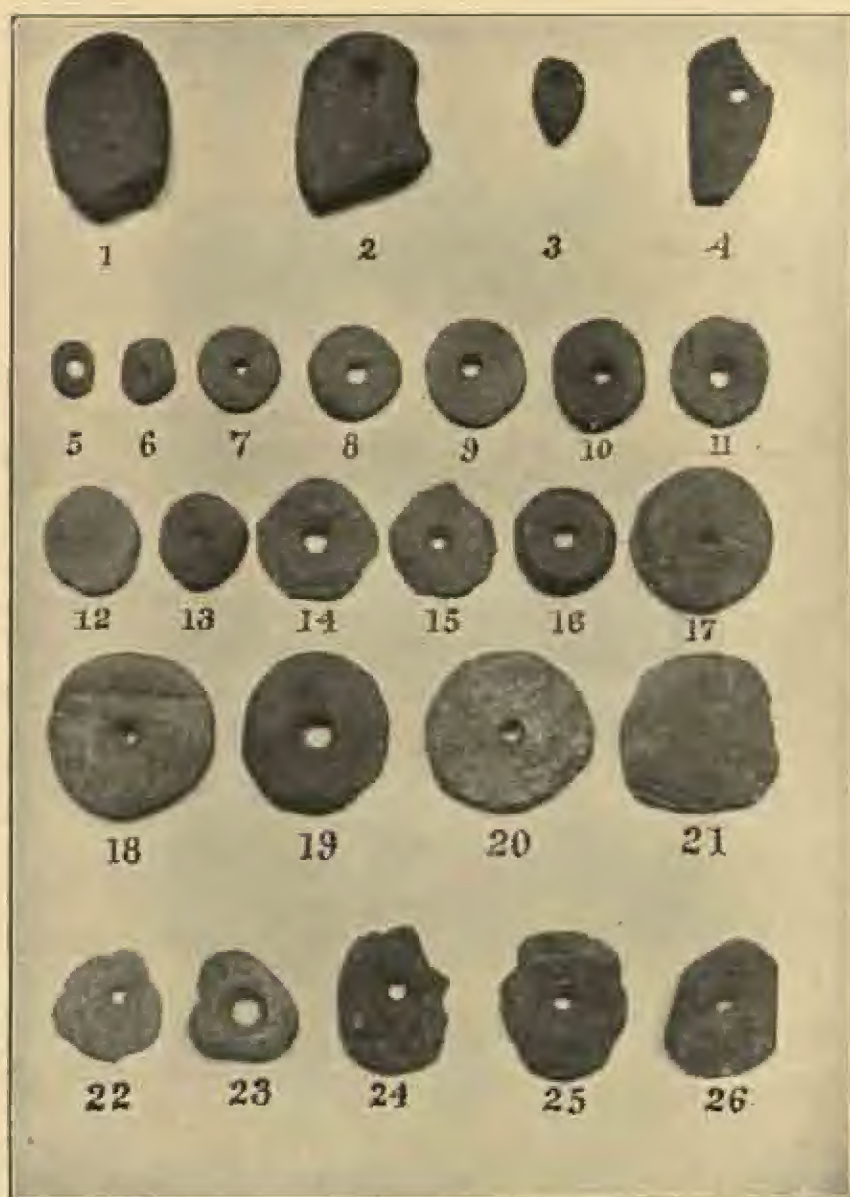
A.C.T.

more finely finished articles, the boring process alone has been in vogue, while in the third group, in which the articles are much larger and more roughly finished, both the boring and picking processes can be seen. From this it appears that the two processes may have been in use at the same time.

The objects (figs. 1 to 55) arrange themselves into three distinct groups, the first of which, numbering four specimens, Nos. 1 to 4, is composed of those articles which have the perforation near the end, and which all have the holes bored. The holes are countersunk from both faces of the object, and taper towards the centre from both sides. These four specimens are all more or less water-worn, the largest and the smallest being flattened oval pebbles. Nos. 1, 2 and 4 are from Logie-Elphinstone district, and No. 3 is from Newbigging.

The second and third groups are composed of those articles which have the perforation at or near the centre, and they form practically the whole of the collection. They number sixty-one specimens, and seem to be composed of objects which have not been put on record before, so far as Scotland is concerned. These two groups seem to go together, and if one group is found in a district the other may be expected. At least, I have found it so in three different localities.

The second group is composed of the smaller and more finely finished articles, and numbers seventeen specimens, Nos. 5 to 21, of which eight are from Logie-Elphinstone, one is from Colpy Farm, one is from the Kirkyard of Culsaund, one is from Lochend, Barra, three are from Harlaw, and three are from Newbigging. Most of them are carefully manufactured to the desired thickness, and are well dressed to an almost circular shape. They vary in size from $\frac{1}{8}$ of an inch to $1\frac{1}{4}$ inches in diameter, and from $\frac{3}{16}$ of an inch to $\frac{1}{4}$ of an inch in thickness. The holes, which, with the exception of No. 16, are all countersunk and taper in from both sides, vary from about $\frac{1}{16}$ of an inch to $\frac{1}{4}$ of an inch at the narrowest part, the two smallest holes being found in No. 6, one of the smallest, and in No. 21, the largest specimen of this group. No. 16, from Newbigging, differs from all the others in having its hole drilled



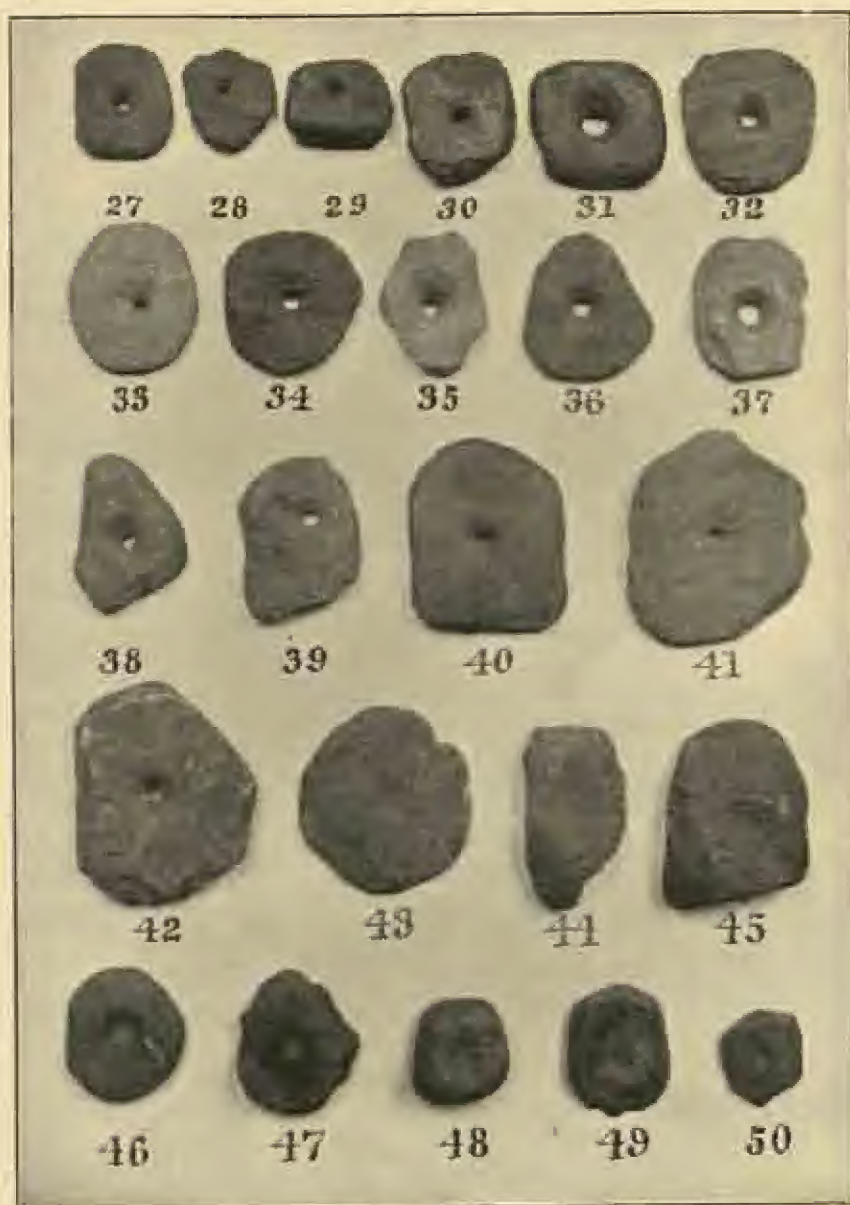
Figs. 1-26. Perforated Stone Objects from the Gailoeb. (Scale, $\frac{1}{4}$ linear.)

straight through the stone with no tapering, and also in having the top and bottom sides bevelled all round for about $\frac{1}{16}$ of an inch from the outer edge. No. 12 before mentioned, from Colpy Farm, which belongs to this group, and which has been carefully dressed to the desired thickness and ground round the circumference, shows no trace of the hole having been commenced. No. 14, from Harlaw, shows a second hole to have been begun on one side, but apparently after it had been commenced it was found to be too far out of the truth to meet the hole on the other side, and being discontinued another hole was bored in the right place. Another specimen, No. 13, from Newbigging, shows the boring to have been started from both sides but not completed.

	Type I.	Type II.		Type III.				
Localities.	Perforation Complete.	Perforation Complete.	Perforation Incomplete.	Perforation Complete.		Perforation Incomplete.		Total.
	Bored.	Bored.	Bored.	Bored.	Picked.	Bored.	Picked.	
Newbigging, .	1	2	1	1	3	1	2	11
Kirk of Calsamond, .	..	1	—	..	...	...	...	1
Jericho and Colpy Farm, .	...	...	1 ¹	...	4	—	—	5
Johnston, .	...	...	—	...	2	—	—	2
Cushieston, .	...	...	—	...	1	...	—	1
Lochend, Barra, .	...	1	...	...	...	—	—	1
Harlaw, .	...	3	...	...	...	—	...	3
Logie-Elphinstone, .	3	3	—	7	16	2	5	41
Total, .	4	15	2	8	26	3	7	45

The third group is composed of the larger and more roughly formed articles, and numbers forty-four specimens, Nos. 29 to 65, of which thirty are from Logie-Elphinstone, four are from Jericho and Colpy

¹ In this specimen the perforation has not been commenced. Since this notice was written I have received from Scotston, Inver, a specimen almost similar to No. 12. It has been ground round the periphery, and the perforation has not been begun.



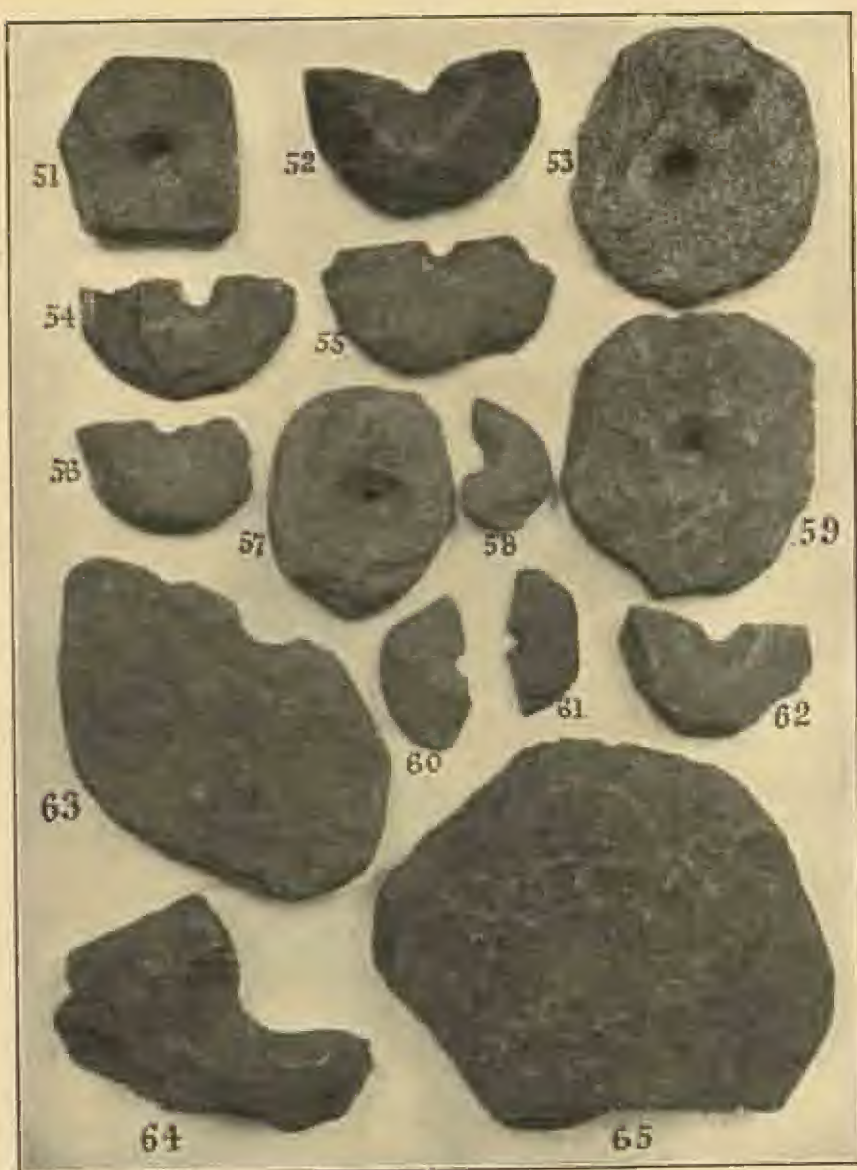
Figs. 27-50. Perforated Stone Objects from the Garioch. (Scale, $\frac{1}{2}$ linear.)

Farm, two are from Johnstone, one is from Cusheston, and seven are from Newbigging. Some of them are roughly circular, others are triangular, some are four-sided, and many can hardly be described, the stones being naturally fractured and showing little or no dressing except the perforation. They vary in size from about 1 inch to 7 inches in diameter, and from $\frac{1}{8}$ of an inch to $1\frac{1}{2}$ inches in thickness. The perforation is complete in thirty-four specimens, twenty-six having been picked and eight bored. The perforation has not been finished in ten specimens, in three of which the process had been by boring, and in seven by picking. The holes at the narrowest part vary from $\frac{3}{16}$ of an inch to slightly more than 1 inch in diameter.

Probable uses.—The question now is, What was the probable purpose of these objects, which from their numbers must have been in common use among the ancient inhabitants of so many parts of the "Hove o' the Garioch"? Were they implements, ornaments, weapons, amulets, toys, or articles of dress?

On the face of them they do not seem to have been either weapons or toys. I mention toys because I have a small axe of slate, $1\frac{1}{8}$ inches long, $\frac{1}{4}$ of an inch thick, and $\frac{1}{2}$ of an inch at its greatest breadth, which was found in the Logie-Elphinstone district, and which apparently was a toy. No doubt the ancient inhabitant of Scotland provided toys for his children, as did the ancient Egyptian. I have been informed that within the last thirty years an old lady in Roxburghshire kept a perforated stone hanging behind one of the doors of her house for luck. It was almost identical to No. 59 both in shape and size, and it was always spoken of as a charm. We are quite familiar with flint arrow-heads, stone axes, and beads having been used as charms in the not far distant past, so we may take it that these objects were not made as amulets, although later we find them invested with an odour of superstition. This limits the question to whether they were implements, ornaments, or articles of dress, and it seems probable that each of these three types is represented in this collection.

Taking the first group of four specimens with the hole near the end,



Figs. 51-65. Perforated Stone Objects from the Garloch. (Scale, $\frac{1}{4}$ linear.)

it is quite obvious that three of them, Nos. 1, 2 and 3, were pendants, and very likely were ornaments. It is extremely improbable that they could have been used as sink-stones, both on account of their lightness and on account of the distances at which they were found from any water of importance where they might have been used. The two specimens Nos. 1 and 2, from Logie-Elphinstone, were found near the top of a ridge of land about half a mile from the nearest water, the Ury, which is a quick running stream of no great size. No. 3, from Newbigging, is only $\frac{1}{16}$ of an inch at its greatest diameter, and is thus far too small for a sinker, while the nearest burn is little more than a ditch. The holes in these three specimens are so very small that it is not at all likely that the fishing lines used by prehistoric man would have been fine enough to go through them. It therefore seems probable that they were simply ornaments strung like beads. The remaining specimen of this group, No. 4, from Logie-Elphinstone, differs from the three others in having a much larger hole and in being incomplete. If not an ornament like the other three, it is quite possible that it may have been a stone bracer which has got broken. One of the bracers in our Museum was found within three miles of this district, at the Rayne Stone Circle, and I have an oblong slate implement, $1\frac{1}{2}$ inches long, $\frac{1}{16}$ of an inch broad, and $\frac{1}{8}$ of an inch thick, with a hole at each end, from the same Logie-Elphinstone district, which may have been a bracer, though it seems rather small for that purpose.

The second group is composed of seventeen specimens all having the holes bored and none picked out. These look like whorls at the first glance, but on better consideration it is seen that they are thinner; and the holes are smaller than in the ordinary Scottish whorl. Again, with the exception of No. 16, all the holes are tapered from both faces and they go through the object at an angle, so that it would have been impossible to have adjusted them on spindles, even had the spindles been small enough for the holes. Like the previous group they are all too light for sinkers, and they have all been found at a distance from water. The most of the specimens in this group would have made very serviceable buttons if a thong were passed through the hole and

then knotted, the countersinking forming a receptacle for the knot. Sir John Evans says:—"Sir Wollaston Franks has suggested that some perforated discs may have been used as dress fasteners, and mentions that very similar objects have been found in Mexico which there is every reason to believe were used as buttons. He also instances a specimen from South Wales which has evidently had a cord passed through it, as the edges of the hole in the centre are much worn by friction. Such a view carries much probability with it so far as it relates to thin discs of stone with small central holes not parallel but tapering from both faces."¹ No. 5, from Logie-Elphinstone, and No. 6, from Newbigging, seem too small for buttons, while in the first-named specimen the hole is far too big in proportion to the whole object to have been used in this fashion, and in the last mentioned one the hole is too small for this purpose, it being only $\frac{3}{8}$ of an inch in diameter. These two may have been used as beads.

Coming now to the third group, which comprises forty-four specimens, embracing all the larger and more roughly formed articles, we find that thirty-three of them have the holes picked out and eleven are bored, the bored ones being found among the smaller specimens, whereas the picked ones include all the larger.

When we review the whole of the second and third groups together, so gradual and complete are the various stages in the development of the objects from the smaller and more finely finished ones to the larger and rougher ones, that it seems as if the whole parcel of relics contained only one class of object, the use of which we are unable to conjecture. But if we accept the smaller and more finely finished articles as buttons or beads, then the larger ones must represent a different type of article altogether. If the two largest specimens Nos. 64 and 65, or even if any of the five specimens Nos. 43, 44, 45, 48 and 49, with their unfinished picked holes, had been found singly by themselves and not in conjunction with the other groups of this collection, we should readily have accepted them as anvil stones, but when we find the article with the hole complete, we see that what we might have

¹ Sir John Evans, *Ancient Stone Implements*, 2nd edition, p. 439.

taken for an anvil stone was no such thing; that the abrasion on the stone was only the beginning of a hole which was to go right through the object, a thing that never occurs on an anvil stone. Apparently then they are not anvil stones. As there is no body of water in the vicinity of where they were found we must find for them some use other than that of sink-stones. "In Samoa flat circular discs of stone 2 inches in diameter, with central holes, are used to prevent rats from reaching provisions, which are suspended in baskets by a cord. One of these discs strung on a cord suffices for the purpose."¹ Some of these objects would have answered this purpose well enough. It has been suggested that some of the larger specimens may have been fixed on the end of a wooden shaft and used as clubs. Weapons of this type are used in Queensland and New Guinea, the stone disc being fixed in its proper place by having a ribbon of plaited grass wound round the shaft on both sides of the disc. Some of the objects show the picked holes worked quite smooth by friction at the narrowest part, while others show all the picking clearly defined. Others, again, show the picking to have been worn almost smooth on both sides. One, No. 38, from Logio-Elphinstone, is worn smooth on one side only, and several show grooves running round the inside and outside of the hole. These seem to suggest that some sharp pointed spindle or other implement had been rotating in the hole and had occasionally jumped out. Possibly this may have been some kind of bow drill which required the upper end of the spindle to be kept steady, a perforated stone held in the hand being used for that purpose. The whole of this group, with the exception of two or three of the largest specimens, would have been quite handy and suitable for this purpose. If they were used to produce fire, it is strange that the same fire drill was not in use in other parts of the country; and if it were to drill holes in stone, bone, or horn, we should surely find a greater abundance of objects with drilled holes. Out of this collection of sixty-five perforated objects only one, No. 16, can be said to have the hole drilled.

¹ Sir John Evans, *Ancient Stone Implements*, 2nd edition, p. 439.

We have thus what seem to be three distinct types of perforated stone objects, the first group being composed of pendants, which may have been ornaments, the second group being composed of discs, which may have been used as buttons and beads, and the third group being composed of irregularly shaped stones, of which the greater number have apparently been used to steady the end of a rotating spindle or shaft.

While many parts of Scotland have produced numbers of perforated discs of stone, yet so scattered has been their occurrence, that they never seem to have been recognised before as other than sink-stones, notwithstanding that they have been very often found far distant from any place, which, either in ancient or modern times, has been covered with water, where they could have been used. It is strange that so many specimens should have been found in this single district, and this leads us to think that possibly a seat of manufacture of these objects was in the Garioch, from which they were distributed to other localities. Now that attention has been called to them, we may expect to hear of greater numbers being found in other parts. Still, if they were common articles of use all over the country, it is surprising that they have not been found in larger numbers in the Culbin, Glenluce, Shewalton, and Stenvenston Sands—areas which have each produced such large numbers of so many different types of prehistoric objects. These areas have been so thoroughly searched that, if these discs had been in common use there, it is certain that they would have been discovered.

As none of the articles in this collection have been found directly associated with any special prehistoric type of object, we are not able to assign the relics to any particular period. Perforated stones of some of these types have been found in crannogs and have been considered whorls. They have been discovered to have been in use in ancient hill forts in Ayrshire. The district where most of them were found is very rich in stone implements and Bronze-Age burials, and it is quite possible that while some of these objects may belong to comparatively recent times others of them may go back to the very beginning of the Iron Age or even further.

MONDAY, 9th March 1903.

DAVID MURRAY, LL.D., *Vice-President*, in the Chair.

A Ballot having been taken, the following were duly elected Fellows:—

ANNA, COUNTERS OF MORAY, Beechwood, Murrayfield.

ROBERT COLTMAN CLEPHAN, F.S.A., *Vice-President of Soc. of Antiq. of Newcastle*, Marine House, Tynemouth.

D. F. LOWE, M.A., LL.D., Heriot's Hospital.

LORD STRATHCONA AND MOUNT ROYAL, G.C.M.G., D.C.L., LL.D., Glencoe, Argyllshire.

JAMES RITCHIE, The Schoolhouse, Port-Elphinston, Inverurie, was duly elected a Corresponding Member.

The following Donations to the Museum and Library were laid on the table, and thanks voted to the Donors:—

(1) By PETER ANDERSON, Backhill of Drachlaw, through F. R. COLES.

Jet Button, with supplementary V-shaped perforation, found at Cairn Riv, Inverkeithly, Aberdeenshire, in 1862.

(2) By Dr JOHN DREW, Rudecroft, Stirling.

Iron Axe-head of peculiar form, found under the foundations of an old house in Stirling.

(3) By HOMER MUNRO, M.D., LL.D., *Vice-President*.

Bronze Socketed Axe, said to be one of a hoard of bronze objects found with a bronze caldron at Kilkerran, Ayrshire, before 1846, of which two bronze socketed axes, part of a sword-blade and one of the rings of the caldron are already in the Museum.

(4) By GEO. P. JOHNSTON, 33 George Street.

The First Edition of Hume of Goderoft's History. 4to. Privately printed. 1901.

(5) By Dr R. DE BAUS TROTTER.

Galloway Gossip; or, the Southern Albanich eighty years ago. 8vo. 1901.

(6) By the KEEPER OF THE RECORDS OF SCOTLAND.

Accounts of the Lord High Treasurer of Scotland. Vol. iv. 1507-13. Edited by Sir James Balfour Paul, Lord Lyon King-of-Arms.

The Register of the Privy Council of Scotland. Second Series. Vol. iv. Edited by P. Hume Brown, Fraser Professor of Ancient (Scottish) History and Palaeography.

(7) By ALEX. THOMSON, F.S.A. Scot.

Lauder and Lauderdale. By Alex. Thomson, Galaahiel. 1903.

(8) By the MASTER OF THE ROLLS.

Close Rolls of the Reign of Henry III., A.D. 1227-1231.

Calendar of the Patent Rolls, Richard II., A.D. 1388-92.

Calendar of Papal Letters. Vol. iv. A.D. 1362-1404.

Calendar of Close Rolls, Edward III. Vol. vi. A.D. 1341-1343.

Catalogue of Ancient Deeds in the Public Record Office. Vol. iv.

There were also Exhibited :—

(1) By THOMAS IRELAND, L.R.C.P., through W. W. IRELAND, M.D., F.S.A. Scot.

A collection of Stone Axes and other Implements, from British Guiana.

(2) By G. H. CARRIGN, through A. J. S. BROOK, F.S.A. Scot.

Circular Silver Badge of the Six Feet Club (Edinburgh), instituted in 1826.

(3) By CHARLES STUART DAVIDSON, H.M. General Register House.

A selection of Old Edinburgh Badges, in lead and brass, of Town Porters, Chimney Sweeps, and Drovers.

The following Communications were read:—

I.

EXPLORATION OF SIX SMALL CAIRNS AT ABERLOUR, BANFFSHIRE.

By THE HON. JOHN ABERCROMBY, SECRETARY.

On the 21st and 22d of August 1902 I opened, with the kind permission of Mr John Findlay of Aberlour House, Aberlour, several small cairns. They formed but a few of a considerable number distributed with great regularity in parallel rows on the sloping side of a moor called Kelter, on the north side of Meikle Conval, and to the east of Ben Rinnes. There were a sufficient number of these cairns, which could only have been sepulchral, to term the place a prehistoric cemetery, though in those examined no traces of interment could be found.

No. 1 had a diameter of 16 feet and a height of 2 feet. A few small pieces of charcoal were found in the earth and stones that composed the cairn, at a depth of 30 inches, and 9 feet 3 inches from the west end of the cutting. But there were no signs of cremation or of burnt earth. The stones were mostly rounded boulders of granite, such as could easily be lifted in one hand. The trench was cut from east to west, and enlarged at the centre to include a space $9\frac{1}{2}$ feet by 7 feet; but no human remains were found, and no cist. The light yellow subsoil on which the cairn rested was quite hard, and had never been moved.

No. 2 lay 78 yards nearly due east of No. 1. It had a diameter of 17 feet, and was 2 feet 8 inches high. This was a cairn like the last, and here also a little charcoal was found at the middle and to the north of it, in very small quantity and much decayed. The transverse trench

from east to west was enlarged to cover an area of 8 feet square, but no cist or interment or relic was brought to light. The yellow subsoil had never been trenched before.

No. 3 was 66 yards south of No. 2, had a diameter of 14 feet and a height of 17 inches. An excavation $7\frac{1}{2}$ feet by $6\frac{1}{2}$ feet at the centre and carried down to the untouched yellow sandy earth below disclosed no traces of human handiwork, not even burnt wood.

No. 4 was 14 yards south-west of No. 3, had a diameter of 16 feet and a height of $1\frac{1}{2}$ feet. It was made of stones with a little earth between like the others. An excavation 14 feet 9 inches by 6 feet 3 inches at the widest, and 4 feet 10 inches deep, was made across the centre, but nothing was found.

No. 5 lay 16 yards west of No. 4, and was a stone-setting rather than a cairn, but it formed part of the cemetery. It measured 39 feet by 4 feet 9 inches wide, was only a few inches above the level of the ground, and if prolonged would pass about one yard to the east of No. 2 as it lay nearly north and south. The south end was well marked by three large stones standing in the same line as the axis of the stone-setting. The centre one was upright and measured 2 feet high above ground, the other two were recumbent. All three stones were as much as two men with levers could move. I had 21 feet of the southern half of the setting cleared of stones, but found nothing. The stones were larger than most of the stones in the cairns already explored, and lay in one or two layers, according to size, on the top of the yellow subsoil, which was quite hard and had never been disturbed.

No. 6 measured $14\frac{1}{2}$ feet and $13\frac{1}{2}$ feet in its diameters, and was $1\frac{1}{2}$ feet in height, and lay close to No. 4. An excavation 10 feet square was made at the centre to a depth of 2 feet, when the hard yellow stratum was reached. Here, again, no cist, relic, or vestige of bone, human or animal, was encountered.

Although the exploration of these small cairns was fruitless, it is not without interest. The interments seem to have been made by laying the corpse on the ground and covering it with a very low circular heap

of stones and sand. The nature of the moor is so wet that in a few years all trace of a body would probably disappear. From the absence of any cist or of the smallest object of sepulchral furniture for the deceased, it seems likely that these small mounds mark interments of comparatively late date.

II.

A VISIT TO EILEACH-AN-NAOIMH (HINBA). By WILLIAM W. IRELAND, M.D., F.S.A. Scot.

In the summer of 1901, along with Mr W. C. Maughen, I visited this island. To Dr Patrick H. Gillies, of Kilbrandon, I am much indebted, not only for his guidance to the place, but also for a large part of the information in this paper. The remarks about the meaning and etymology of Gaelic words are entirely derived from Dr Gillies. He revisited the island last year and took some new photographic views. I am also indebted to Mr Benjamin N. Peach, LL.D., of H.M. Geological Survey, who visited the island last summer, for five photographic views and for some useful notes about the buildings.

After establishing himself at Ii or Iona, to which his possession was confirmed by the Pictish king Bridei, and also by Conall, the king of Scottish Dalriada, St Columba, in the prosecution of his missionary work, planted churches and religious colonies in the islands around—Ethica Insula (Tiree), Elene Insula (off Islay), Scia (Skye), Egea Insula (Egg). Adamnan, in his Life of St Columba, frequently mentions the Saint's visit to the island of Hinba or Hiuha, where he had a monastery, over which he placed his maternal uncle Ernan. The date of this establishment must have been between A.D. 563 and 574. No island of the Hebrides now bears this name. It has been derived from an old Gaelic word Imbach or Imbeh, meaning a surrounding sea. All traces of the locality seemed to be lost

till the Garvelloch islands were visited by Dr Macculloch in 1824. In the westernmost of them, called by the Gaelic name *Ilachann*, he lighted upon the remains of some religious buildings and monuments of a primitive form and apparently of ancient date.¹ The island was uninhabited, which goes to account for the preservation of the remains. Dr Reeves, describing them, put the question—Is this Hinba? It was reserved for Skene to state the grounds for this belief, in a forcible manner. The converging probabilities which he arrays may be found in Reeves's edition of the *Life of St Columba*.² We are told by Adamnan that the Saint, while staying in the island of Hinba, was proceeding to excommunicate some persecutors of the Church, the sons of Conall, the son of Donnail. One of these malefactors was named Joan, of the race of Gabran,³ who was chief of the *Dadriad Scots*, on the fringe of which the Garvellochs lay. One of their companions named *Lam-dèss* (*Manus dextera*) hearing of what was taking place, instigated by the devil, rushed at the Saint with a spear. He was saved by the interposition of one of the brothers named *Findluganus*. *Lam-dèss* was killed with a javelin the year after in the island of *Lunga* (*Insula longa*). This is an island in sight of *Eileach-an-Naoimh*. This Joan had twice plundered the house of a friend of Columba; returning the third time at a place called *Ait-chumbas Artmuirchoi* (*Arduamurchan*), the Saint being there, he tried to dissuade the robber from farther plunder, but his interposition was met with derision. The Saint followed the robbers up to the knees into the sea, praying to Christ. Returning to the dry ground, Columba prophesied that neither the robber nor his wicked companions would get back to the lands which they desired. Accordingly their ship was wrecked by a sudden storm in the middle of the sea, between Mull and Colonsay, and all were drowned. This was on the way between *Arduamurchan* and the Garvellochs.

¹ See a *Description of the Western Islands of Scotland*, vol. ii. p. 157.

² *Life of St Columba, Founder of Hy*, written by Adamnan, edited by William Reeves, D.D., Edinburgh, 1874, p. 324.

³ *Joan filius Conallie filii Donnallie de regio Gabrani ortus genere. Vita, lib. ii. cap. xxiii.*

There are still the remains of a castle on the island north of Eileach-an-Naoimh, of which farther mention will be made.

Dr W. F. Skene tells us that Dean Monro, in his description of the Western Isles in 1594, mentions 'Dunchonill,' "ane iyle so namit from Conal Kernache, ane strength, which is als meikle as to say in English, ane round castle."

Kernache is probably *Cathernach*, "a soldier or leader of a company," or what were called from this word 'caterans'; and it seems not unreasonable to suppose that Dunchonall was so called from Conall, the father of Joan, and was the seat of this piratical family, for which, both from its isolated character and its proximity to the mainland territory of the genus Gabran, it was peculiarly appropriate. This confirms the identity of Eileach-an-Naoimh with Hinba.

The Garvelloch islands¹ may be said to be a chain of hills washed by the sea, which has isolated them by breaking through the ancient ravines, now narrow straits. There are many well marked traces of denudation of the softer rocks. The topmost peak of Eileach-an-Naoimh, the top about 270 feet high, bears the name of Dun Bhreannain, or St Brandon's Hill. The north-west shore is very precipitous in some places, presenting a sheer descent of 200 feet. On the southern aspect there are slopes of different gradients; the more level parts are covered with a rich grass; in the hollows there are bushes growing, but no trees. The island is about one and a quarter miles long, and at its broadest

¹ The word is pronounced locally, not Garbhelleach, but Garbhbhilleach; that is, rough lipped or edged; but even if we say Eileach, this means a mound or stony place. Thus the rough mound would be an appropriate name for the rugged outline of Garvelloch. In the same way Eileach-an-naoimh would mean the mounds of the saints, or holy mounds.

Eileach, or more properly Alleach, is probably connected with Ailbhe, *Aint*, and certainly with Al, an obsolete word for a rock or stone. Skene thought Eileach to be a corruption of Eilean, an island, which it certainly is not; we have the very word in the old monkish *Vita Brendani*: *Et in alia regione in Britannia monasterium nomine Ailech sanctissimi Brendani fundavit*. In the Brussels edition of the same work, Ailech is mentioned as an island: *monasterium in insula Ailech, alteram in terra ethica*. We may suppose that Ailech was the original title, naoimh (*holy*) or naoimh (*of the saints*) being afterwards added.

about a quarter of a mile. There are dykes of basalt; but the island is mainly composed of a gritty calcareous shale. A column of rock about 12 feet high, which stands out near the southern shore, has been called the Cranegg, or Columba's pulpit. It is composed of hard quartzite rock, with some slight mixture of carbonate of lime. The softer rocks round



Fig. 1. The Church on Eileach-an-Naoimh, showing doorway in the south wall.
(From a photograph by B. N. Peach.)

have been worn away with the lapse of time, leaving this tough old tusk, which still has on the outside the colour given by oxide of iron. The landing is generally made on a narrow creek on the south-west aspect.

After an easy scramble up the rocks we passed through some marshy ground, and a little higher up, on a more level spot, we came to a rude

building (fig. 1) believed to be the chapel.¹ The roof is wanting, but the walls are entire. They are constructed of wide flat stones, laid upon



Fig. 2. Exterior view of east wall of the Church, showing the single small window.
(From a photograph by B. N. Peach.)

one another without any lime. The material is obviously taken from

¹ The ruins of the ecclesiastical buildings on the island have been described by the late Mr T. S. Muir in his *Characteristics of Old Church Architecture* (1861), and by Dr Joseph Anderson in *Scotland in Early Christian Times* (1881), where they are figured from photographs taken by Rev. J. B. Mackenzie, Kenmore, in 1869.

the rocks around. The chapel measured about 27 feet by 12 feet exteriorly. The walls are about 8 feet high and 3 feet thick. There is a little splay window in the east end (fig. 2), about 5 feet from the floor and 1 foot 6 inches in width. The chapel is oriented, as nearly as can be, true east and west. On the west side of the building there are clear traces of a square enclosure.

A little higher up the hillside is a smaller building (fig. 3), 15 feet by 10, with two doors opposite one another. The east end is semicircular,



Fig. 3. The Kiln on Eileach-an-Naoimh. (From a photograph by D. N. Yeach.)

and two-thirds of the interior is taken up by a raised stone platform, having in the middle a hollow like that of a caldron or boiler. Below, there is a flue going through the basement of the platform to let in air. It is no doubt a kiln for drying corn, to be ground in querns similar to the 'sornies' formerly common in Caithness-shire, which some old people remember still in use.

A little way from the south side of the chapel there is an underground cell, big enough for a man to turn easily in. It has two stone shelves. This was probably the cellar for the wine for the eucharist.

Lower down is a small piece of level ground with ruined wall, which is thought to have been the garden. Around old conventual buildings one sometimes finds rare plants, the descendants of flowers which were cultivated by the monks. We noticed the elder-bush, still a favourite hedge in the Highlands, the corn-marigold, the meadowsweet, the lychnis, and the mullein (*Verbascum thapsus*). All of these are found in the isles around, save perhaps the mullein, which was used as a demulcent by the old herbalists.



Fig. 4. Portions of Sepulchral Slab on Eileach-an-Naomh.
(From a photograph by Dr P. H. Gillies.)

Below the garden is the graveyard, clearly indicated by a number of headstones, of the same slate rock as is quarried at Eastale. There are a few rude carvings, and on one slab a Greek cross, but no lettered inscriptions. One gravestone, more elaborately carved than the others, was lying flat beside the chapel. On one side of the face was a sword, on the other a rod, signifying perhaps that the man who rested below had once borne arms and afterwards become a monk. The slab measured 47 by 20 inches, with a thickness of 5 inches. After clearing away the

lichen and dust upon its face, a photograph was taken by Dr Gillies.¹

There is good reason to believe that several of these ancient monuments have been carried away. Macculloch speaks of a number of votive crosses and carvings of the swords of warriors of former days on the grey stones on the burial-ground. A headstone with an incised Greek cross, which was carried away in a bout for ballast, was fortunately rescued, and is now in the Museum. In August 1880 Dr Macmillan and Mr Clerk unearthed a Celtic cross and set it up on the spot. This has now disappeared, and only one stone with any attempt at ornamentation (fig. 4) remains above ground, the one of which Dr Gillies took a photograph. Next summer Mr Peach, who also copied it, found the stone broken through the middle.

About 150 yards south-west of the principal burial-ground, upon a grassy eminence, there is a cairn with headstones (fig. 5), one of which bears a rudely incised Greek cross. According to tradition, in this solitary grave was laid the body of the mother of St Columba.

East of the chapel are the walls of an old building of the same rude structure, ten paces by seventeen. Below these, to the eastward and nearer the sea, were two beehive cells (fig. 6), each having its own entrance and a channel for drainage, and also a passage from one to another, standing like a figure 8. Though half ruined, their contour and structure could clearly be seen. Their diameter from the inside was 14 feet for the larger one, and somewhat less for the other. The thickness of the wall at the base was over 8 feet. The Celtic monks frequently retired to such hermitages, some of which still remain in Ireland in good preservation.²

Not far from the landing-place a trickling spring has been collected

¹ Dr Gillies subsequently wrote, "I have got hold of the old baptismal font of the chapel, which was removed therefrom, as far as I can guess from thoroughly reliable tradition authority, at least 250 years ago. I shall send photos of it, or at least a few sketches and measurements."

² *Church of Scotland, Past and Present*, edited by Dr W. H. Story, p. 134.



Fig. 5. Burial-enclosure round two headstones at Eileach-an-Naoimh.
(From a photograph by R. N. Peach.)



Fig. 6. Beehive Cell at Eileach-an-Naoimh. (From a photograph by B. N. Peach.)

into an artificial basin, which is called *tobar Chaluim-na-chille*, or St Columba's Well.

That these buildings formed part of a small monastic establishment I have no doubt whatever, and they have obviously the air of great antiquity, probably coeval with St Columba himself. It has been objected that the early Scottish monasteries and churches were constructed of hewn wood. This is based upon a passage in Bede, who was born a hundred years after the founding of Hinba; and granting that most of the ecclesiastical buildings were thus made, it can scarcely be proved that they were all so. Where wood failed, stone would be used; and nothing could come in more handy for builders without lime than those broad flat stones.¹ Laid plumb upon one another, they would stand as long as the strata from which they were dug.

We are told in Adamnan's Life that four holy founders of monasteries, named Comgallus Mocu Aridi, Cunnachus Mocu Dalon, Brendenus Mocu Alti, and Cormacus, the grandson of Lothain, passing from Scotia (that is, from Ireland) to visit Saint Columba, found him in the island of Hinba. They would naturally go first to Iona, and not finding him there, pass on to Hinba, which looks as if it were not far off. They all with one mind agreed that Saint Columba should consecrate the mystery of the holy eucharist in their presence, which he did on the Lord's day. Saint Brendan afterwards related that he saw a globe of fire alight on the head of Saint Columba while he was standing before the altar and consecrating the holy oblation. At another time, while the Saint remained in the island of Hinba, he stayed for three days and as many nights in a house, out of which rays of surpassing brightness were seen to issue through the chinks of the door.

The monastic establishment of Hinba seems to have been still kept up while Adamnan was Abbot of Iona (A.D. 679-704). Most likely,

¹ Remains of such edifices (stone churches of the most primitive Celtic type) still exist in many of the northern and western islands, such as those of Tigh Beannachadh in Lewis, Teampall Beannachadh on one of the Flannan Islands, and Teampall Sula Sgeir."—*History of the Church of Scotland*, p. 228.

about the beginning of the ninth century, the isle was visited by the piratical Northmen, when the monks were massacred or saved themselves by flight. There is no proof that they ever returned. Fordun, who wrote his *Chronica Gentis Scotorum* between 1441 and 1447, shows some acquaintance with the isles off the coast of Argyllshire. Though he may have visited Iona, he could scarcely have come near the Garvellochs, for he says that Scarba was fifteen miles long, whereas it is little more than three miles. Fordun mentions Helant Leneow¹ (Eileach-an-Naomh), and says that there was a sanctuary there. He does not tell us whether it was inhabited, but he mentions the neighbouring castle of Donquhonde,² which at that time was certainly held by the Macleans. He mentions the neighbouring islands of Longa, Seil and Mull, and is particular in noting the religious foundations, monasteries, churches, chapels and cells.

¹ Insula Lyngay, insula Luyng. Insula Sunay. Insula Sellee major, insula Sellee minor. Insula Helant Leneow, scilicet, insula sanctorum, et ibi refugium. Insula Garvelane, juxta magnum castrum de Donquhonde, distans ab illis insulis sex miliaribus in oceano. Insula Mule, ubi duo sunt castra, id est Doundowerle et Dounrwyse—lib. i. cap. x.

² See Donald Gregory's *History of the Western Highlands and Isles of Scotland*, London, 1881, p. 69. This author erroneously places Dunconell in Scarba, and Dunkerl in the Garvelloch isles.

III.

NOTICES OF (1) THE CAMP AT MONTGOLDRUM AND OTHER ANTIQUITIES IN KINCARDINESHIRE; (2) A STONE CIRCLE CALLED THE HARESTONES IN PERBLESSESHIRE; (3) A CAIRN AND STANDING STONES AT OLD LISTON, AND OTHER STANDING STONES IN MIDLOTHIAN AND FIFE; (4) SOME HITHERTO UNDESCRIBED CUP- AND RING-MARKED STONES; AND (5) RECENT DISCOVERIES OF URNS. BY FRED. R. COLES, ASSISTANT-KEEPER OF THE MUSEUM.

(1) THE CAMP AT MONTGOLDRUM AND OTHER ANTIQUITIES IN KINCARDINESHIRE.

(1) *The Camp, Montgoldrum*.—Early in the summer of 1900 information was sent to the Society by the late Mr Hercules Linton, of Bervie, regarding the somewhat strange remains on this site. It was thought desirable that a careful examination and drawings should be made; and with the intention of carrying this out, I was directed to visit Bervie and make a report on the structure called "The Camp." This I did in June; and the following description covers the account of this site and one very close to it, as well as one or two other relics in the vicinity.

"The Camp" is situated on the crown of a broomy hill a quarter of a mile due east of Montgoldrum farm, which is 4 miles N.W. of Bervie. The hill is about 400 feet above sea-level. The nature of the site may be seen in the ground-plan (fig. 1): a curvilinear hollow rimmed by a completely stony rampart, which, from crest to crest, measures 40 feet in diameter; certainly not an area sufficiently spacious for a camp. The rampart varies in height, but it averages about 2 feet 10 inches. Outside of its slope are several massive stones, seemingly earthfast, but the circumference is very incomplete in this respect. Rather farther outside, on the south, lie seven fragments (most of them showing the jumper-holes of the blasting) of a huge block of diorite, which was probably 9 or 10 feet long and 4 feet in height.

When first examining this site, the impression left was that it was merely a plundered cairn.¹ Writing now with more knowledge of the

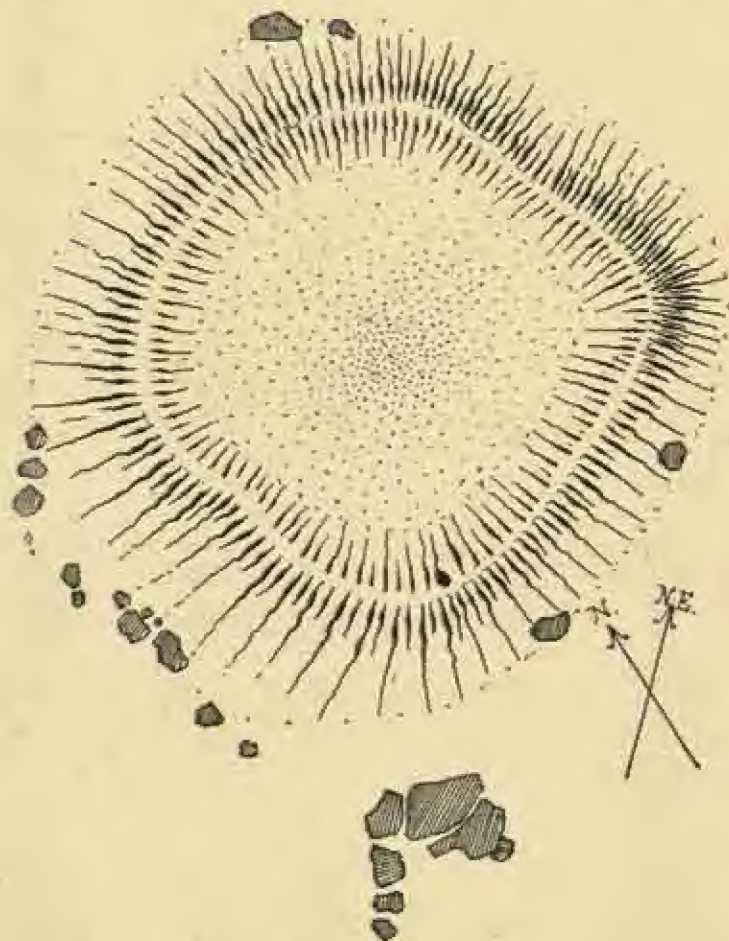


Fig. 1. "The Camp," Montgoldrum.

varieties of Stone Circles in these parts of Scotland, I incline to agree

¹ See *Proceedings*, vol. xxxiv, p. 107.

with what Mr Linton suggested, namely, that the structure was originally a Stone Circle. This is borne out by the following facts. In Aberdeenshire we find, at Whitehill, Monymusk, just such a rampart of stones concentric with the outer standing stones (here absent); and from its

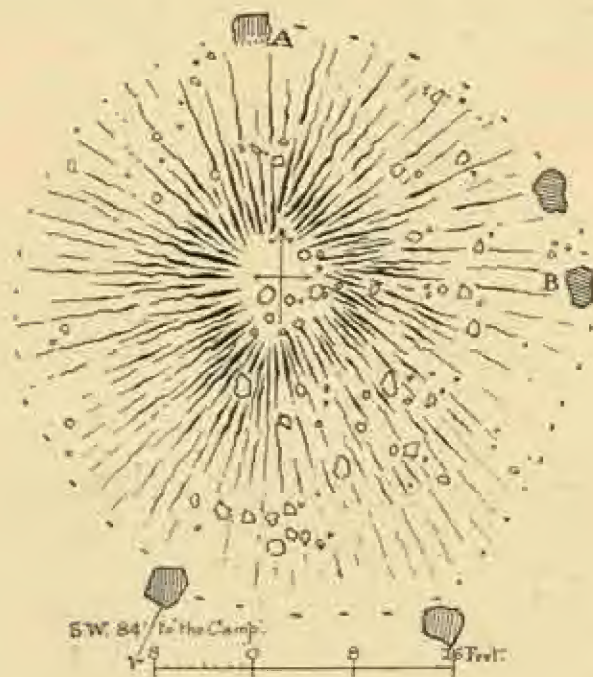


Fig. 2. Cairn at Montgaldrum.

position on the S.W. are the great diorite block, now ruined, might well have been the Recumbent Stone.

The compass-mark on my ground-plan shows the N.E. as well as the north. If we follow a line in the former direction for 84 feet from the north arc of "The Camp," we reach a large earthfast stone (fig. 2), which, with four others very similar in size, are disposed at the base of

a low cairn. Its centre is about 2 feet 6 inches above the base of the slope, and the diameter is 50 feet. The mound displays no appearance of having been dug into or even slightly disturbed. Of the five basal stones, A is 15 and B 20 inches in height.

The Moray Stone.—About a mile to the N.E., on the Leys of Allardyce, stands the great block of diorite which passes under this name (see fig. 3). It is set with its longest edge due east and west, and here it measures 4 feet 3 inches, the opposite side 3 feet 4 inches, and the



Fig. 3. The Moray Stone.

ends 2 feet 6 inches and 1 foot $4\frac{1}{2}$ inches respectively. Its height is 4 feet 10 inches on the north side. Many small stones are embedded around its base, but two, both of gneiss or porphyry, are much larger, and stand a foot or so above ground. There is a Government Survey mark cut into the north face of the stone. There are traces of an old track running across the fields here, which is said to have come from near Stonehaven to Arbuthnot.

Recumbent Stones at Millplough.—The sole remnant of a circle, at the date of the Ordnance Survey consisting of two stones, which are shown

on the maps. It is a ponderous oblong mass of 'puddingstone,' similar to that of the cliffs at Bervie Bay, no great distance to the east, its summit-length being 11 feet 5 inches, at the middle 10 feet 5 inches, and at the base 9 feet 3 inches. I show a ground-plan and view of it

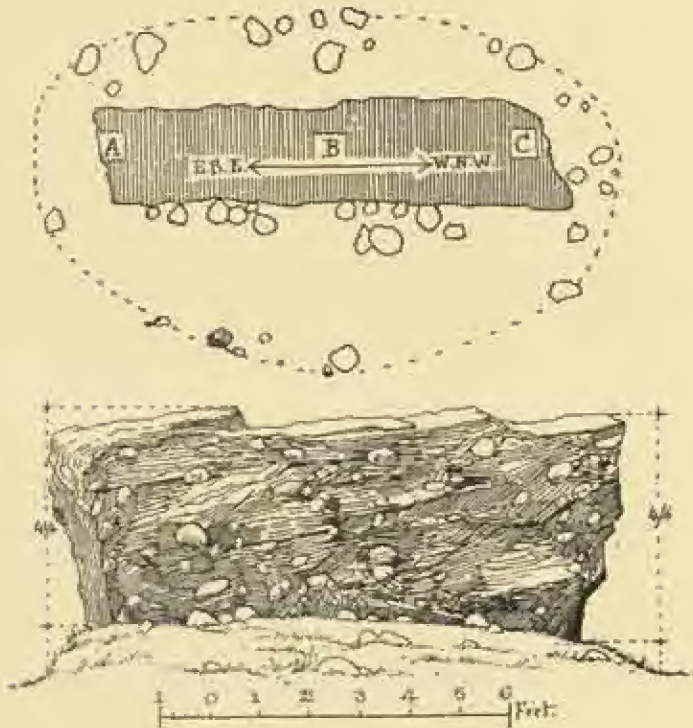


Fig. 4. Recumbent Stone, Millplough.

(fig. 4). The little mound of stones, so typical of the setting of recumbent stones, still clearly exists, sharply rounded off by the plough. The breadth varies from 2 feet 2 inches to 1 foot 5 inches, and the height, though only about 4 feet 6 inches to the mound, is at the rounded

angle (at C, ground-plan) as much as 5 feet 7 inches. The weight of this stone may therefore be computed to be somewhat over six tons.

Stone Circle near Colbank of Barra.—On the Ordnance map there is here shown on Barclay Hill, in a wood, the plan of a Circle of



Fig. 5. Remains of Stone Circle at Colbank of Barra.

several stones, with a central monolith. During my visit to Bervie I attempted to find the Circle, but owing to the great density of vegetation I did not succeed. Afterwards, being put into communication with Mr William Duthie, schoolmaster in Barra, it was my good fortune to be indebted to him for a very careful and thorough plan of

the site, and from his measurements and notes I am able to show the annexed plan (fig. 5), reduced to the scale of 20 feet to 1 inch, in keeping with the Stone Circles I have elsewhere investigated.

In the centre is a low, irregularly circular heap of small stones, but no monolith, as shown on the map. At a radius of 26 feet there remain several smallish earthfast stones, while, 5 feet distant beyond these, are two stones, one nearly 5 feet long, both on the south arc, a third, broken, on the east arc, and a fourth at or near to the north point of the Circle. None of these stones, however, is pillar-like; the large S.E. one is probably a prostrate pillar. Outside these again stand two more stones, about 10 feet beyond the second radius.

(2) NOTICE OF A STONE CIRCLE CALLED THE HARESTANES,
PEEBLES SHIRE.

This group of Standing Stones is situated in the parish of Kirkurd, within the S.W. angle of the road at the Old Toll, which is some 200 yards west of the manse of Kirkurd. The Old Toll and its adjoining garden are drawn on the 25-inch scale Ordnance map of Peeblesshire, and the site described as "Remains of Druids' Temple (supposed)," but no marks indicating the stones are printed. The spot is about 850 feet above sea-level, on the fairly flat top of a slope rising from the north and west. Chambers¹ writes of it as "a hamlet called Harestanes, which has derived its name from certain Standing Stones of unknown antiquity." Some correspondence, Dr Anderson informed me, took place about four years ago between the Rev. T. W. Miller and the Society with reference to the preservation of the stones, in the possible event of the line of piping for the Talla Water scheme being taken through them. Subsequently, in communication with Mr W. Melrose, I was led to understand that these stones formed really a circle of massive monoliths, of which, if his memory of thirty years could be trusted, several stood fully 5 feet overground. A letter to Dr C. R. Gunn elicited, through him, a note and a sketch of the stones

¹ *History of Peeblesshire*, page 456.

by Mr Miller. The latter, however, having no clue by which to judge the size of the stones, I determined to visit the spot at once, and accordingly did so on 30th April 1900, when I obtained notes and measurements enough to work out the ground-plan annexed (fig. 6). The first feature noticed on reaching the garden where the stones stand was that the level of the ground within them is slightly higher than that on the outside, especially on the south arc. At present there are

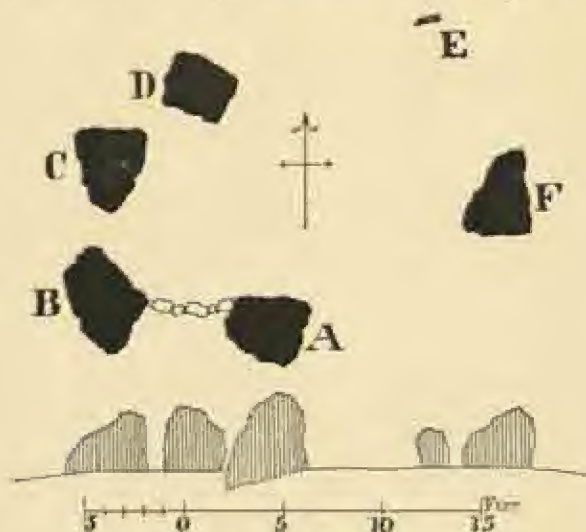


Fig. 6. Stone Circle, called Harrestanes, at Kirkcudbright.

but six stones: five are huge, massive, natural blocks of a rough and gritty pale-reddish volcanic trap; the sixth (E on ground-plan) is a thin slab (to the right in the view from the east, fig. 7) of a more sandstone-like composition, and is set up in the manner of a modern headstone. It is only 1 foot 10 inches in height. The tallest of the others (A on plan) stands with its inner edge fully facing the north. It measures 4 feet 7 inches in height on the outer face and is rudely conical. Between it and B is a ridge of low-set stones, none of them so firm as not to be pretty easily joggled by a push. This stone, B, is

very uneven, but flattish on the top, which is 3 feet high. The next stone, C, is very similar in character. (It is not shown in the section, as it is entirely concealed by B.) The north stone, D, is a very square-

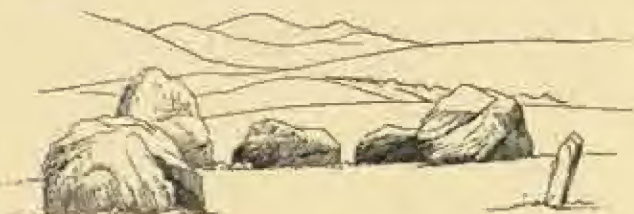


Fig. 7. Harestanes Circle; view from the east.

sided straightly set-up block 3 feet 3 inches in height. The stone on the east, F, is a very massive one, 3 feet in height. It looks out of position, and indeed, if it were eanted over westwards by even only one breadth, we should have an almost exact circle of 15 feet in diameter. I append also a view from the west (fig. 8).



Fig. 8. Harestanes Circle; view from the west.

(3) NOTICE OF A CAIRN AND STANDING STONES AT OLD LISTON, AND OTHER STANDING STONES IN MIDLOTHIAN AND FIFE.

Cairn and Standing Stones at Old Liston.—In his "Notes on a large Sepulchral Cairn at Collessie,"¹ Dr Anderson refers to Dr Daniel Wilson's brief notice of the opening of this Cairn at Old Liston in

¹ *Proceedings*, xii. p. 449.

1830, and thereafter to some more extended description by Dr John Alexander Smith.¹ Whether the Cairn was thoroughly excavated or not does not appear, but the only relics found were a bronze dagger-blade, a heap of animal charcoal, and small fragments of bones. Having in May 1899 made a survey of the whole site, I am able to present the following notice and ground-plans.

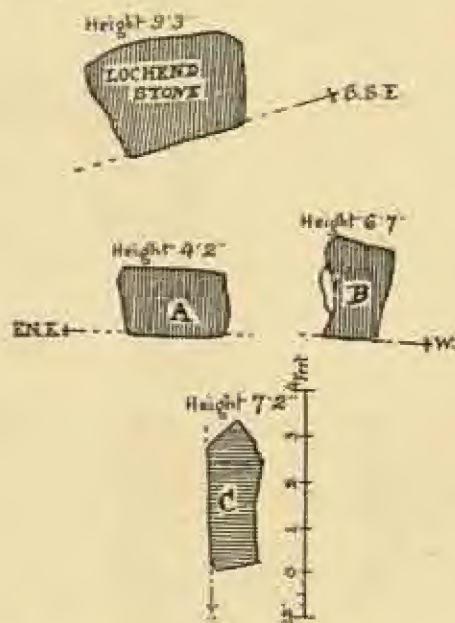


Fig. 9. Ground-plans of Standing Stones, Old Liston.

The Heelie Hill, as this Cairn is locally called, can easily be reached by taking the first turn to the left after quitting the train at Ratho station on its north side. As one walks westwards, the first object to arrest the eye of the antiquary is a great monolith, over 9 feet in height, in a field close to Lochend farm. This I call Lochend Stone, and its ground-plan is shown on fig. 9, with the direction of its flattest

¹ *Proceedings*, vol. II, p. 151.

side at the base. The other three separate ground-plans are those of the three Standing Stones near the Cairn, named A, B and C on the ground-plan of the Cairn (fig. 10). To these also are appended their heights, and the compass-direction of one side at the base, to scale.

The general ground-plan gives the Cairn and three Stones on a necessarily small scale, one hundred feet to an inch. On examining it, the first thing to strike one is the apparent chance-work of the setting

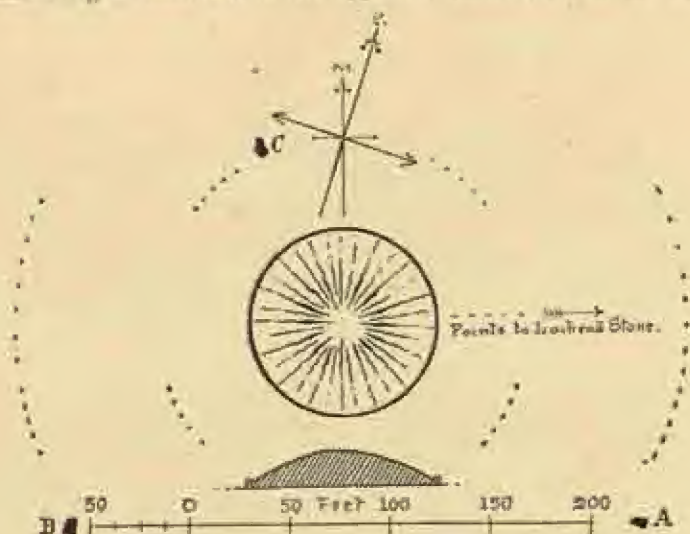


Fig. 10. The Cairn called Heelie Hill, Old Liston.

of the Standing Stones; for it is clear that the stones A, B and C are not set up on the circumference of a circle concentric with the base of the Cairn, because C is set on an imaginary circle whose radius is equal to the diameter of the Cairn, and A and B are set on one whose radius is twice that diameter. In other words, if the Cairn ever was completely surrounded by a circular setting of Standing Stones¹ concentric

¹ The compiler of the *Old Statistical Account* (1794) writes of "a circular mound of earth, surrounded with large unpolished stones at a considerable distance from each other" (vol. 10, p. 69).

with itself, this setting must have been double; that is, on the assumption that these three Stones are remnants of the original setting, left in their original positions. It is certainly also remarkable that the stone C is almost precisely to the N.E. of B and to the N.W. of A, and that the base of this triangle, the space between A and B, is precisely 318 feet, thrice the diameter of the mound.

The Cairn, grass-grown all over, is about 15 feet in its central height, and 96 feet in diameter within the encircling low wall. It is a little irregular and rough in certain parts of its summit, but certainly betrays no evidence of anything like an exhaustive excavation.



Fig. 11. Standing Stone, Liberton Glebe.

Standing Stone on Liberton Glebe.—In the *Old Statistical Account* this Stone is briefly noticed. On the Ordnance map it is shown, but named in plain lettering only, at a point 66 yards S.W. of the Dalkeith Road, a little to the N. and E. of Kingaton Grange Mains, on a site about 200 feet above sea-level.

It is a rather shapely block of sandstone, very grey in parts, with quartz crystals, and more or less deeply scored with vertical grooves on its east and west faces. It is extremely similar to the Auchencorth Standing Stone, both in composition and appearance. At the ground, its longest side, which trends 5 degrees E. of N. by compass, measures 2 feet 1 inch, the opposite side 1 foot 10 inches, the north side 1 foot 8 inches, and the south 1 foot 10 inches: these measures, including a corner $4\frac{1}{2}$ inches wide, give a girth of eight feet. The top of the stone girths 4 feet 8 inches. The eastern side has, besides the long grooves worn by weather, one large ear-like cavity, also naturally formed. The height of the Stone is 6 feet $6\frac{1}{2}$ inches.

The drawing (fig. 11) was made from the S.E. angle.

Standing Stones on Gala Braes, Bathgate.—I examined this site in August 1902. It is about a mile to the east of Bathgate, and occupies the summit of a ridge extending some 300 feet westwards of the by-road that branches off due N. near the farm of Clinkingstone. The ridge is about 850 feet above sea-level. On reaching it, I found but one Standing Stone,—a rough whinstone boulder, split very unevenly, and jagged on the south side, very smooth on the two shorter sides, and girthing at the base 10 feet 5 inches. The longest edge trends W.N.W. and E.S.E. It stands 5 feet 3 inches high and occupies the highest spot on the ridge. (See fig. 12.)

Proceeding westwards along the ridge, I came, at a considerably lower level, to another flattish spot, the crown of a sand-hillock, its sides sloping off rather steeply in all directions. Towards the S.W., and some 60 or 70 feet away, at the foot of the slope, lay two pieces of whinstone, very columnar in form, and evidently recently split. After measuring these two carefully, so as to be sure that their fractured ends corresponded, I found that when complete this Stone would have measured 4 feet $6\frac{1}{2}$ inches in length, and its thicker end would have girthed between 8 and 9 feet. The two fragments lay 27 feet apart. The larger and more cylindrically-shaped of the two lay just as if it had been heaved up and rolled over the crest of the sandy hillock above

mentioned; and it would have been almost justifiable to point to the centre of that hillock-summit as the original position of the Stone merely by the present position of the latter in regard to the hillock. While debating these matters and putting up my note-book, I noticed a man crossing the field a few yards away. On intercepting him, I asked if he remembered when there were two stones on the ridge? He replied, they were both there a twelvemonth ago. Then I pointed to the fallen fragments and said, These were one Stone! He replied, Yes, they were; the Stone having been, in a mischievous mood, pitched over the



Fig. 12. Standing Stone, Gala Braes.

brow. This man was the farmer of Gala Braes. He took me to the spot where the Stone had stood, explaining that, owing to much trampling by sheep and cattle, the earth round the base of the Stone had become loosened so as to render the Stone itself insecure, and that thus it had fallen an easy prey to the wanton hands of some lads, whom, if he could find out, he would prosecute. Asked if any digging had ever been made at either of these stones, Mr Carlaw replied that many years ago an old Bathgate worthy known as "The Apostle" persuaded his (Carlaw's) father to dig at the base of the upper Standing Stone (the one at present erect), and they found human bones. The farm of

Gala Braes has been in the tenancy of a Carlaw for upwards of a century.

We then measured from the site of the fallen Stone to the centre of the erect Stone, and found the distance to be 228 feet 7 inches. What precise archaeological relationship, therefore, these two Stones bore to each other, is not a point upon which the present brief investigation can throw any light.

Assuming, however, that the bones found at the upper Stone were human, and taking cognisance of the fact that throughout Scotland there are many knowes, hills, hillocks and laws which are distinguished by the epithet Gallow or Gala, and that in or at many of these human remains and interments (some of them prehistoric) have been discovered, we may place this site on the Gala Braes of Bathgate in the same general group.

Pending completer study of the geographical distribution of these epithets in Scotland, I am in a position to state that in the six lowland counties of Lanark, Peebles, Roxburgh, Selkirk, Haddington, and Edinburgh, the epithets occur attached to mounds, whether natural or artificial, over fifty times. The resultant question—What do the epithets Gallows, Gallow, and Gala actually mean!—is one which cannot be fully answered until the examination of the Survey maps has been carried to a much greater extent.

But that the epithets are applied in many instances to tumuli and cairns, and to mounds, not so called, but containing burials of various epochs, are facts disclosed by even such a partial examination as up to the present date I have been able to make.

The Kel, or Caiy, Stane at Comiston.—The site of this tall monolith is in Colinton pariah, on the estate of Comiston, in the corner of a field a quarter of a mile east of the loaning which leads from the main road between Fairmilehead and Hunters Tryst to Swanston farm. A very few yards east of the stone is a large square space enclosed by a strip of plantation on all sides. To the east again, and exactly a quarter of a mile distant from the Kel Stane, there is marked on the O.M.

the site of a supposed Roman Camp; and a furlong or so to the S.W. of this, the sites of two Cairns. On the same map, the ground lying to the south of the main road and adjacent to these sites is named *Caix-side*; while at *Fairmilehead*, just at the point where the *Edinburgh* and *Colinton* roads meet, a straight piece of old road trends almost due south to *Lothian Burn*, and this on the map is named *Roman Road*.

The *Kel Stane* has been figured already by Simpson,¹ for whose monograph on the *Archæic Sculpturings* a drawing was supplied by Col. *Forbes-Leslie*. This lithograph view, however, scarcely shows the cup-marks with sufficient accuracy; and on noting this, I made careful measurements of the Stone and examined any peculiar features it possessed.



Fig. 13. The *Kel Stane* at *Comiston*.

The *Kel Stane* (fig. 13) is set upon the level and broad summit of the ground here, which is a very gently rising eminence. Its longer axis is set practically due north; for I found by compass that it pointed 10 points to the E. of N., and the variation for *Edinburgh* being at present 18' brings the edge of the stone within 8 points of due north. The east and west sides, taken at the ground, measure respectively 4 feet 1 inch and 4 feet 5 inches in breadth, the north edge 1 foot, and the south edge 1 foot 3 inches. It is of very roughly granulated sandstone. Its greatest height is 9 feet 7 inches, and its

¹ *Proceedings*, vol. vi., Appendix, pl. xvii.

greatest girth, which occurs at the height of about five feet, is 12 feet 9 inches. Its weight may therefore be computed at considerably over a couple of tons.

The most distinct cup-marks—on its east face—are six in number, of equal size and depth, and arranged in a very slightly curving slope (fig. 14), the highest, near the south edge of the stone, being 1-foot 6 inches above the ground. Just to the right of the deep fissure, and near the north



Fig. 14: Cup-marks on the Kel Stone.

edge of the stone, are several more very much worn-out cups, clustered pretty closely together. I do not think these have hitherto been noticed.

With regard to the sites of the Cairns above noticed, we have in a brief paragraph by the Rev. T. White,¹ the following notice:—

"In the neighbourhood of this [i.e. Morton Hall], but further south-west, on the grounds of Comiston, were found, in forming the public road, under large heaps of stones, various sepulchral stone enclosures, in

¹ Account of the parish of Liberton in *Arch. Scot.*, vol. i. p. 209.

which were deposited urns with dead men's ashes, and divers warlike weapons." And again, when speaking of the levelling of a part of the ground close to the old (so-called Roman) road, by Sir John Clerk of Penningetick, the same writer adds, there "were discovered several stone coffins with human bones."



Fig. 15. Gowk Stone, Auchencorth.

The Gowkstone, Auchencorth, Penicuik.—This monolith stands on the highest point of a nearly level plateau which swells up conspicuously out of the pasture-lands 700 yards to the east of the farm-house of Auchencorth. It is a tall block of micaceous sandstone, grey and weathered. Its greatest height is 6 feet 4 inches. Its base is set with its longer side trending N.N.E. and S.S.W., and its girth on the ground is nearly 9 feet. On its narrower S.E. face (fig. 15) are two long and

deep grooves, worn back into the shelf-like part near the top. The uppermost portion of this side is smooth and bears an inscription in modern Roman capitals, which is, to a large extent, illegible, but seems to read :—

. RK
 TI DUM
 . . X . . . BOUNTI .

The three lines of lettering are placed between two horizontal beadings, which are absent at the ends, through the edges of the stone being fractured. The letters are cut fairly deep and with care; they are about $1\frac{1}{2}$ inches in height, and the whole inscription occupies a panel measuring 18' by 9 inches.

I was led to the discovery of this Stone purely through my interest in the philology of its nomenclature. Having ascertained that in Aberdeenshire there are no fewer than seventeen farm-lands in which the affix *corth* occurs, and that on at any rate eleven of these there still remained a Standing Stone marking the site as the Field of the Pillar (*Achadh-ma-Choirthe*),¹ I applied to the tenant of this farm in Penicuik for information. There being no stone shown on even the 25-inch scale O.M., it was the more gratifying to learn from his reply that there was this Gowkstone to corroborate my theory.

It may be of interest to put on record here the following list, though incomplete, of place-names in which the epithet Gowk occurs.

In Lanarkshire, there are Gowk-hill and Gowk-thrapple in Cambusnethan; Gowk-stone, a monolith at Laigh Overmuir in Loudon; and Gowk-knowe, near Corra Linn. In Renfrewshire, Gowk-house is the name of a farm in Kil-macolm parish. Gowk-stone is the name attached to a house in ruins in Old Kilpatrick, Dumbartonshire; in Whittinghame, Haddingtonshire, a little stream flows through the Gowk-cleuch.

¹ In the Buchan district alone there are fourteen different houses distinguished by the name *Cortiecrum* in its varieties of north, south, east, west, and Croft of *Cortiecrum*.

There is a hill, 600 feet above sea-level, in Abdie, Fifeshire, called Gowk Hill. While in South Aberdeenshire, in Dyce, near and to the N.E. of Caskieben, there is a Gowk Stone; in the extreme west of Gartly, on Candy Knowes, there is a Gowk Stone, and another in Logie-Coldstone; a Gowk-stile in Birse; a Gowkswell—the name attached to a croft—near Tillymorgan, in Culsalmond; the Gowk Stone at Oyne, previously noted in my Second Report on Stone Circles; and in Methlick there is a Gowk Stone one mile N.W. of the village, and another at Balquhindachy. In Banffshire, parish of Grange, a croft bears the name of Gowk Stone; near Macduff there is the Law of Goukstanes, a Goukstone on the Bowie Burn in Grange, a Gowktree Wood in Bellie; and in Botriphnie, a Gowkshill.

In an interesting list of named stones¹ of Northumberland, Professor G. A. Lebour, of Newcastle-on-Tyne, notes a Gowk Stone at a point where three parishes meet in that county.

The Standing Stones of Lundin, Fifeshire.—The site of these megaliths is in a field 300 yards N.N.E. of the railway station at Lundin Links, on the N. of the main road going east and west. They are now but three in number, but at about the date of 1790 a fourth lay broken near them. The *N.S.A.* states that "ancient sepulchres are found near them"; and though referred to by the few writers who have noticed them at all as if they were an original group of three Stones, it becomes pretty clear, upon a careful survey and measurements, that these three Stones are really the remaining members of a Stone Circle. In the ground-plan appended (fig. 15) the three Stones are shown in black, on the circumference of a circle whose diameter is 54 feet. All the Stones are huge masses of coarse red sandstone. The Stone at the S.E. is the largest; on its inner face, it widens from a base of 5 feet 3 inches to a width of 6 feet 5 inches at a height of 6 feet 7 inches, that is, about the middle of the Stone; for its full height, measured by tape over its flat summit, is 13 feet 8 inches. The inner side is smooth and regular and nearly vertical, but much weathered towards the west edge into

¹ *Barwickshire N.H. Club*, vol. for 1879-81, p. 531.

innumerable shallow oval hollows (*see* the view, figs. 17 and 17A). The south Stone, B, leans considerably towards the south, and near the top is very much attenuated. The height was estimated at about 15 feet; it is certainly considerably taller than Stone A, but by how much precisely I had no means of ascertaining.



Fig. 16. Standing Stones of Landin; Ground-plan.

The Stone at the northern arc (C, on the plan), being quite sharp-pointed (fig. 18), its height also was only estimated by marking a known height on its smoothest face and judging the rest. I put it 16 feet 8 inches or thereabouts. None of these heights can be over-judged, I think, because older observers state them as 18 feet or more. Each monolith stands upon a little mound of packed stones, which rises some 18 inches above the level of the field.

Gordon¹ writes of "a number of very large stones, some of them above 20 feet in height, beneath which, my ingenious and honoured Patron, Baron Clark, having employed men to dig, several coffins were



Fig. 17. The two south Stones, Landin.



Fig. 17A. Standing Stones of Landin; view from the south.

found, containing bones of men; and in one was found a round button of stone of a very curious shape, which I had the honour to see in his

¹ *Itiner. Septen.*, p. 158.

collection." Farjas de St Fond, who travelled in Scotland previously to 1748, when he published his book, gives a view of these Stones with the misleading title, "Ancient Monuments upon the Shore between Kirkcaldy and Kinghorn." The heights of the stones are correctly displayed, but not so their relative distances from each other. All of them, also, are drawn with too jagged an outline, the S.E. Stone¹ especially being much too slender as well. The S.W. Stone was at that date, apparently, quite as tapering and pointed as it is at present. Sibbald² speaks of three



Fig. 13. The North Stone, Landis.

stones in the form of a triangle, and gives a drawing in which, though their height is fairly well shown, their relation to each other errs in their being placed much too close together.

At the time when the account³ of Largo Parish was prepared for Sir John Sinclair's Statistical Accounts—that is, about 1792—the stump of a fourth stone remained; but its position is not noticed with any degree of accuracy.

¹ See *Travels in Scotland*, by F. de St Fond, vol. ii. p. 217.

² *Hist. of Fife and Kinross*, p. 329.

³ See *Pre-Historic Annals*, Wilson, vol. i. p. 131.

(4) NOTES ON SOME HITHERTO UNDESCRIBED CUP- AND RING-MARKED STONES.

(a) *On the Farm of Black Top, near Cults, Aberdeenshire.*—More than ten years ago, Dr A. T. Arthur, of Blair Devenick, Cults, discovered here several sets of cup-marks and cup- and ring-marks on separate blocks of granitic stone lying near the edge of an old roadside leading into the Wood of the Gairn. Rubbings made at that date were sent to

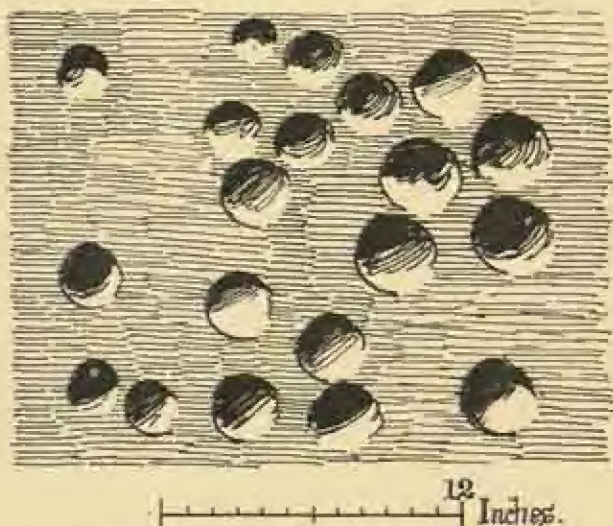


Fig. 19. Near the Wood of the Gairn, Cults.

Dr Anderson, and on my second expedition to Aberdeenshire to investigate the Stone Circles, I took the opportunity of meeting Dr Arthur, and visiting, with him, the several localities near Cults which are interesting not only for their cup- and ring-marked sites, but for remains of various kinds, some curious stony mounds and ridges in the Wood of the Gairn being specially inviting subjects for exploration. One rubbing made in 1890 by Dr Arthur I here reproduce on the same scale as the other cup-mark drawings (fig. 19). It contains a group of twenty-one

large plain cups, eleven of these being clustered together with contiguous edges. They are all included within a space measuring 22 inches by 18. But the actual block of gneiss or porphyry on which they were picked out measured about 42 inches by 27, and was about 30 inches in

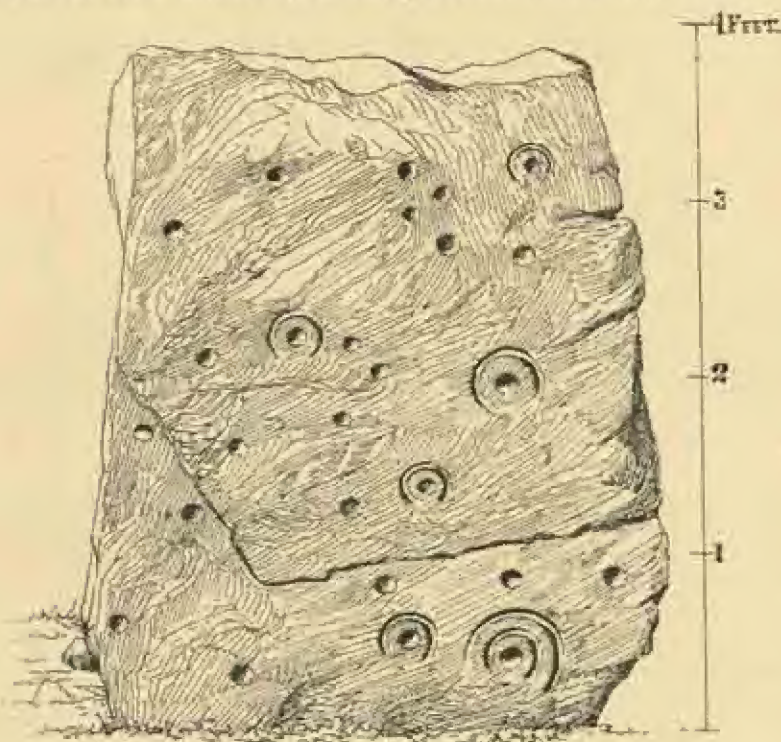


Fig. 20. At Black Top, near the Wood of the Gaurn, Culha.

thickness. Unfortunately it has become the prey of the spoiler, and only one small angle with a fragment of a ring remains to prove its existence.

My next illustration (fig. 20) shows the marks on an upright and very massive block of porphyry, still standing close to the site of the other stone. It is set vertically, with its sculptured side nearly due east; and its dimensions are, height 3 feet 10 inches, breadth near the ground

3 feet 3 inches, and thickness about 2 feet 9 inches. What arrests the eye at once is the incompleteness of the rings. Whether this is due merely to weathering or is of design¹ I do not venture to determine, as, from the gritty nature of the stone and its liability to split off easily, more careful examination in different lights would be needful than was possible on the day of our visit.

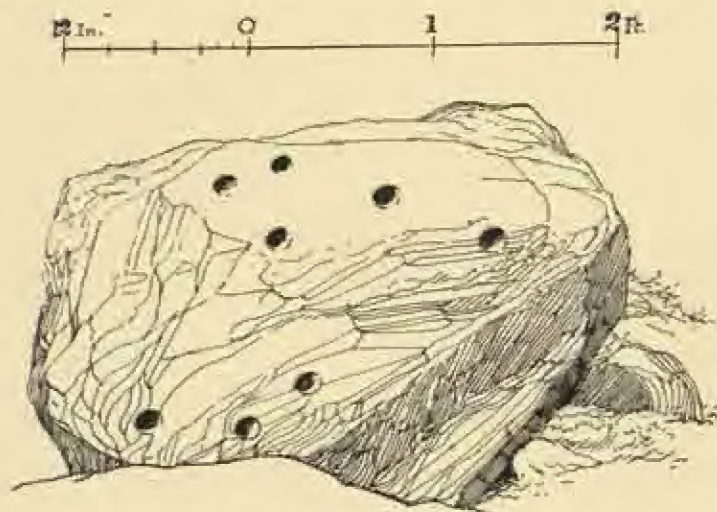


Fig. 21. At the Wood of the Gairn, Culter.

During our inspection on the same day, 13th September 1900, of many loose blocks of stone lying about in a piece of moorland east of the Wood of the Gairn, it was Dr Arthur's good fortune to find the block next figured here (fig. 21), with eight beautifully distinct plain cups incised on its surface. It also is a mass of porphyritic stone, and lies half prostrate upon other smaller pieces, its lower portion partially concealed by a ponderous block, too heavy to move out of the way.

¹ In some of the cup- and ring-markings recorded for the Stewartry of Kirkcubright, abruptly terminated semicircles and arcs of circles are found. See *Proceedings*, vol. xxix, p. 79, fig. 19A, and a note of another on the previous page.

(b) *On Cairnharrow, Kirkmabreck, Stewartry of Kirkcudbright.*—This fine group was discovered in June 1899 by Mr Dougan, the shepherd at Cauldside. The rock lies about 1 mile to the east of the whinstone block on Camlret Moor, of which I supplied an illustration recently;¹ and notice of the discovery was sent to me by Mr Adam Birrell, Carsluith, who kindly enclosed a water-colour drawing of the sculpturing

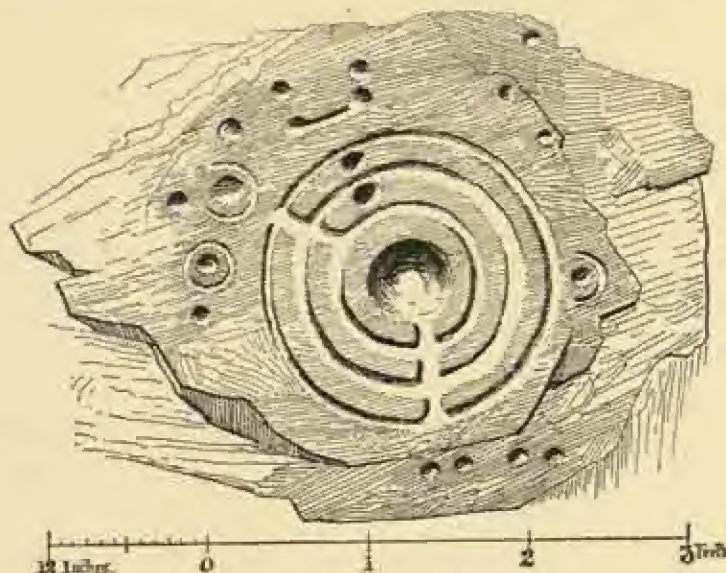


Fig. 22. On Cairnharrow, Kirkmabreck.

(fig. 22). The level surface of this soft-natured rock measures 4 feet by 2 feet, and is about 2 feet above the surrounding ground. One of the two radial grooves cuts into the edge of the central cup, which is 6 inches in diameter; the other groove crosses only the two outer rings. All these large central rings and grooves are particularly distinct, but the smaller groups on the west (left hand in the illustration) are not so plainly marked. The longer groove runs north and south. On the

¹ *Proceedings*, vol. xxxiii, p. 369.

surface slightly N.W. of the large ring are two cups, joined by a straight groove; and there are twelve plain and smaller cups disposed about the rest of the rock-surface, almost in a circumference.

(c) *At North Balfern, near Kirkcinner, Wigtownshire.*—The history attaching to the discovery of the fine groups of rock-sculpturings at this remote western locality is of special interest. During the summer of 1901 Dr Anderson gave me a letter which enclosed a sketch of cup- and ring-marks at Balfern. This letter is here reproduced because of its containing actual testimony as to this the earliest recorded rock-sculptured site¹ in Britain, and a local explanation of the concentric rings, which is probably, in this connection, unique:—

12 Dick Place, Grange, Edinburgh,
17th January 1857.

JOSEPH ANDERSON, Esq., LL.D.

SIR,—Not knowing exactly to whom to address the enclosed paper, I have sent it to you, in case it may be of any interest at some of the meetings of the Society of Antiquaries.

I may mention that in a field near the place referred to there are two or three ring-markings, and I heard of a slab of stone (said to be very perfect) in a plantation about half a mile farther, but had not time to make any exploration.

If any of the members of the Society are in Wigtownshire, it might be worth while making further enquiry.—I am, yours truly,

CHARLES S. INGLIS.

In the paper mentioned, which also contains the sketch of the markings, Mr Inglis writes:—

Rough sketch of markings on the face of a rock near N. Balfern gate, Kirkcinner, Wigtownshire. The figures are twenty-one in all, facing east and south-east, occupying about 4 yards in length by about 2 feet in breadth. The circles vary from 2 to 9 inches in diameter. Col. Forbes-Leake is therefore mis-

¹ A slab, which is said to have covered an urn of foot-resol type, was found, covered with cup- and ring-marks, at Coll-field in Ayrshire, and drawn by desire of Col. Hugh Montgomery of Skelmorlie, in 1785. In 1822 the Royal Society presented the drawing to the Society of Antiquaries.

Another stone—about which great doubt exists—was found at Annan's Treat in Yarrow, and a drawing of it was presented to the Society by Sir Walter Scott in 1828.

But the group of cup- and ring-marks under notice, at Balfern, is the first noted on rock, I believe, in Britain.

taken in saying in his book, *The Early Races of Scotland*, that there are no examples of ring-carvings on stones in Galloway. My attention was first called to these ring-markings about fifty years since (which, I suppose, was before any attention had been called to them), during conversation with a quarryman who had observed them. His idea about them was that prevailing among the people generally, namely, that the rings were made by alders curling themselves in circles on the stone surface, the rock being comparatively soft, giving way and leaving the mark where they had been sleeping! After a slight examination of the place where the bare rock showed itself with four or five rings I got a spade and turned back the earth for some distance along the natural surface of the rock, and found the markings as sketched below. Lately, being in Wigtownshire, I visited the place with the view of making a better sketch, but found it planted with trees and so much overgrown with brushwood that, for want of time, I could not clear it off to get to the surface of the rock.

CHARLES S. INGLIS.

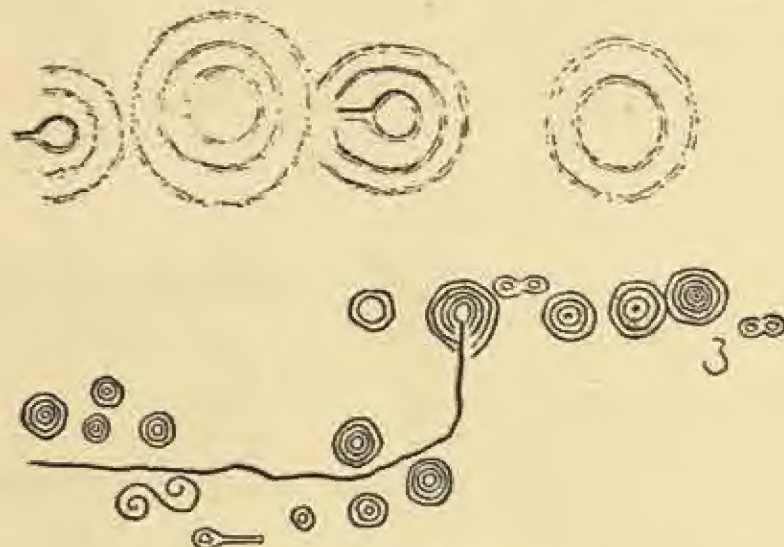


Fig. 23. At North Ballern, Wigtownshire.

It is clear from this account that so early as 1837 this private record of cup- and ring-marks noticed in Wigtownshire was made.

The sketch made by Mr Inglis is not drawn to scale (fig. 23), and contains features of some difficulty in respect of its fitness for reproduction; and as I also wished to ascertain the exact locality of this

sculpturing as well as any other sites on the same farm, I applied by letter to Mr T. Mackelland, formerly tenant of N. Balfarn, enclosing him a tracing of a square half-mile of his land, and asking him to mark with red ink any rocks he knew to contain sculpturings. In a few days my tracing was returned with the desired information added. In communication also with Mr Roderick Innes, editor of *The Galloway Gazette*, I further found that another group of markings had (as I fancied) already been figured in that newspaper in an article on cup- and ring-marks by Sir H. E. Maxwell, under date 6th November 1886. From a tracing kindly made for me by direction of Mr Innes, I here

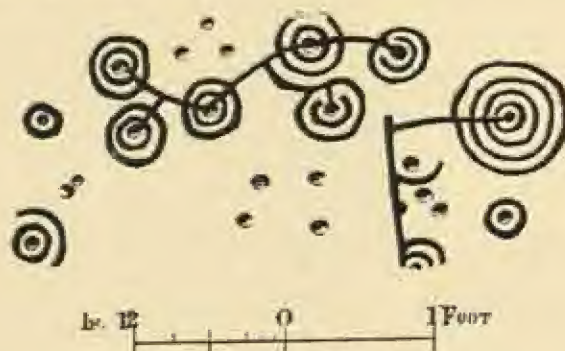


Fig. 24. On a rock at Drumtrodden, Wigtonshire.

reproduce this remarkable group of sculpturings (fig. 24). They occupy a space of rock at Drumtrodden, in Mochrum, measuring 3 feet 8 inches long by 1 foot 9 inches wide. The largest ring measures 9 inches in diameter, the smallest 3 inches, and there are twenty-four cups, thirteen of which are unaccompanied by rings. The grooves are both curved and straight. In two of the groups it will be noticed that the inner ring is only penannular, the ends not touching the groove radiating from the central cup.

(d) *Hill of Rathven, Perthshire.*—The cup- and ring-marked stone here was first brought to my notice by Mr David Smith in the summer of

1900. He then reported that the stone appeared to be one of a large number forming a rough circle in a plantation on the west of this farm. On reaching the house, I was fortunate in meeting Mr Douglas the tenant, who at once conducted me to the westmost field and showed me the stone.

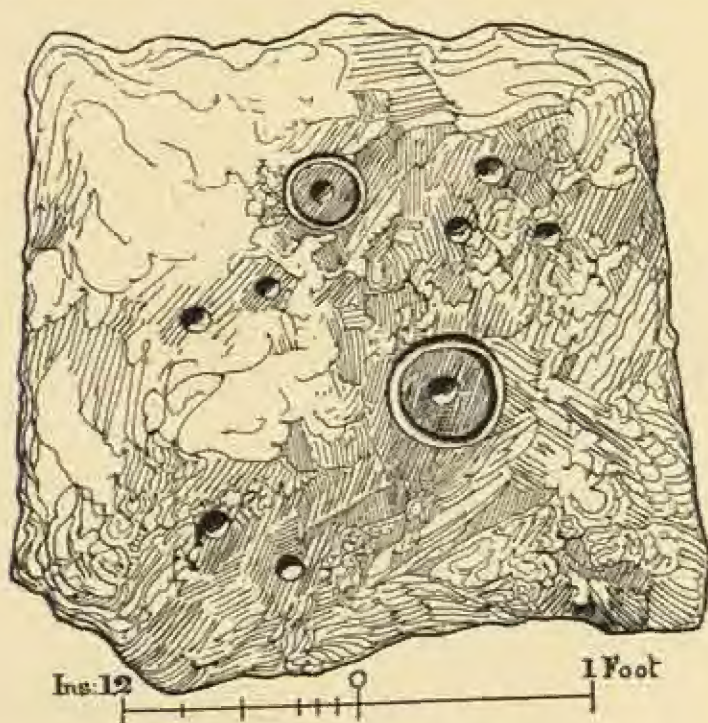


Fig. 25. At Hill of Ruthven, Perthshire.

It is a squarish and not very thick block of 'bastard whinstone,' uneven, weathered, and moss-grown. It measures 2 feet 10 inches by 2 feet 8 inches. As far as examination in the gloom of the clump of trees allowed, I believe I am correct in recording (fig. 25) the seven single cups and the two surrounded by rings as all the definitely artificial marks now visible on this stone. The stone at present lies

prone upon the curved alignment of many stones which have been set on edge, enclosing an area roughly oval, and measuring in round numbers about 210 feet nearly east and west by 90 or 100 feet north and south. Many of these stones are ponderous oblong masses, 5 feet and more in length, and rising above ground $2\frac{1}{2}$ feet. Others are thin slab-like pieces, lying in confusion at various parts, sometimes almost on the circumference, elsewhere well within it. Towards the very centre of the whole enclosure, the distinct but low remains of walls may be traced amid the profusion of long grasses; and this feature confirms the conjecture suggested by the outer alignment of great stones,

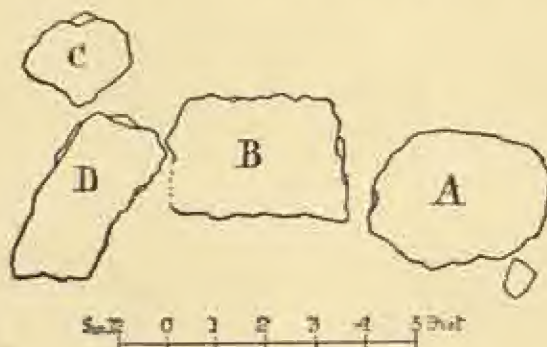


Fig. 26. At West Lamberkins, Perthshire; Ground-plan of the Stones.

that the site was once occupied by a small house and garden. Such structures may be seen in many an old woodland and on the flattish summits of low hills. A curious example of the latter variety still remains on ground called Lenny Hill, near Cranmond Bridge.

(c) *West Lamberkins*.—The site of the Stones next to be described is at a point 333 yards east of the farm-steadings, where two hedges meet at right angles. Four stones, as shown in the ground-plan (fig. 26), lie close together. They appear to be all of bastard whinstone. The middle stone, B, has its longer axis E.S.E. and W.N.W. It is only $3\frac{1}{2}$ inches thick. The stones D and C are each 6 inches thick.

No marks are to be seen on any of these. But on A is the very distinct sculpturing shown in the illustration (fig. 27), unfortunately not complete, owing to the flaking off of large strips of the weathered lower portion of the slab.

There is a strong suggestion of a cist-cover in the shape and size of this stone, which the close proximity of the two other squarer and

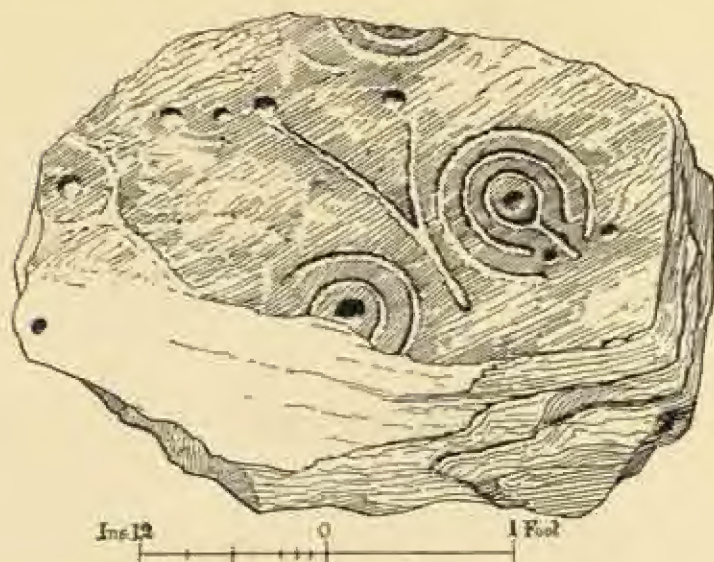


Fig. 27. West Lamberkine; Stone A.

thinner stones helps to enforce. Though these stones have been known to the tenant for over thirty years, this is, I believe, the first record made of their position and features.

(5) *On a Boulder near the Stone Circle at New Craig, Daviot, Aberdeenshire.*—The existence of these marks has been already noticed in brief¹ in my account of the Stone Circle at New Craig. The

¹ *Proc. Soc. Antiq. Scot.*, xxxvi. p. 524.

boulder of whinstone (fig. 28) on which the cups are to be seen occupies a position 102 feet E.N.E. of the centre of the Stone Circle; it lies N. 40° W. and S. 40° E., measures in extreme length 9 feet 2



Fig. 28. Boulder at New Craig, Daviot, Aberdeenshire.

inches, in greatest breadth 4 feet, and is above ground in the central (the highest) portion 4 feet 2 inches. Nearer its northern end is a broad saucer-like cavity (fig. 29), and on the edge of this are five of the seven cup-marks, all slightly over 2 inches wide and about 1 inch in depth.

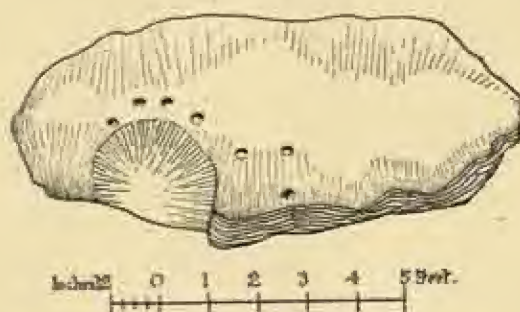


Fig. 29. Top of Boulder at New Craig, showing Cup-marks.

I here put on record the various other sites of cup-marks or cup- and ring-marks, which I have noticed on stones in Stone Circles in Aberdeenshire: (a) on the base of the East Pillar in the Circle at Balquhain,

near Inveramsay; (b) on the summit of the Recumbent Stone at Loanend, near Inch; (c) on a Stone known to have been a member of the Circle at Drumfours, in Cushnie; (d) on a similar Monolith at Ballhaggarty, in Garioch; (e) on the Ringing Stone, Johnstone, Leslie; (f) a group of semicircles on the north face of the Recumbent Stone in the Circle at Arnhill, near Rothiemay station; (g) on the west face of the West Pillar of the Circle at Nether Corskie, near Watertown of Echt; and (h) on the summit and the northern face of the Recumbent Stone in the Circle at Rothiemay home-farm. This Stone and its cup-

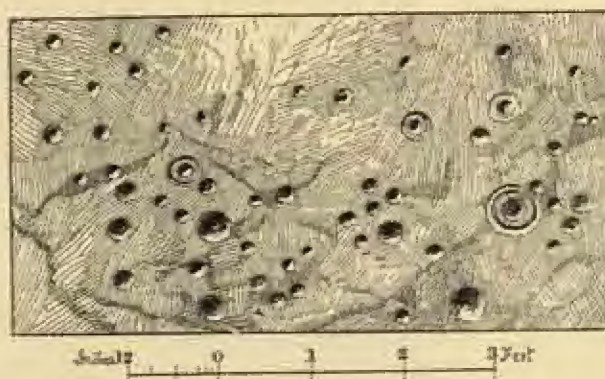


Fig. 30. Cup- and Ring-marked portion of Recumbent Stone at Rothiemay.

marks were described by me at the date of my survey¹ of the Circle, and, as I then thought, with accuracy. Subsequently, in consulting Simpson's *Archaic Sculpturings*, I found this Recumbent Stone figured there. As there were at once observable several serious discrepancies between this illustration and my own, I put myself in communication with Mr James Geddes, schoolmaster at Rothiemay, who most obligingly made a series of rubbings, which, when placed together, covered a space of 6 feet by 3 feet 6 inches; and from these I made a carefully measured drawing to scale, here reproduced in fig. 30. Sixty plain cups, varying

¹*Ide supra*, p. 136.

in diameter from 5 inches to rather less than 2 inches, and four cups each surrounded by a ring, are here shown. The entire absence of straight grooves is noteworthy.

Mr. Geddes also drew my attention to a large boulder of 'bastard granite' lying near Avochie, over a mile S.W. of the Rothiemay Circle. The upper surface is covered with cup-marks,

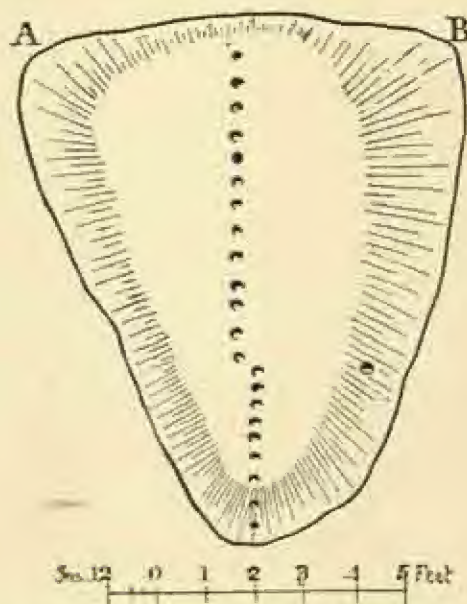


Fig. 31. Top of the Witches' Stone on Tormain Hill, Ratho.

The Witches' Stone, near Tormain Hill, Ratho.—Although this huge boulder and its cup-marks have been more than once figured and described, I found, on a close examination of the broad surface of the Stone, that none of the illustrations showed the cup-marks in their exact relation to each other, nor in their true relation to the contour of the Stone. The drawing shown above (fig. 31) was made after a careful measurement by triangulation of the Stone; and it is claimed to be the

first that shows that the cups, two and twenty in number, are not disposed in one continuous line, but that thirteen follow each other from the high south edge of the stone for a distance of exactly 6 feet, and nine others lie a few inches to the west, occupying a space 3 feet long of the over-curving edge of the north end.

It is further shown that, at a point 2 feet 3 inches west of the ninth cup-mark, there is another one¹ quite as large as the largest in the row near the middle of the Stone. The south edge (A B) has slipped a little down from its original height, the boulder being frost-split horizontally; its height there above ground is 8 feet. The northern and narrower end is about 2 feet above ground, and does not touch the ground, as it rests upon its lower portion, beyond which it projects a few inches.

The cup-marks run due north.

A very remarkable double row of cup-marks is figured and described by Mr W. Gun, F.G.S.² They occur on solid sandstone rock, glaciated, near Fowberry Mains, in Northumberland. One line has 46 cups, all one inch wide, the other has 62 cups of the same size. The two lines are connected at the top by 3 cups, and 3 other similar cups connect them lower down, at the twelfth cup from the bottom. On the right hand line outside of the 36th cup, and six inches from it, is a cup enclosed by a ring; on the left-hand line, opposite the 24th cup, and six inches from it, is a similar cup enclosed by a ring. At the base are two small cups in extension of the line forming the base.

The space of rock occupied by the cups measures 7 feet 2 inches by 9½ inches in greatest breadth.

On two vertical sides of a rock, carved also on its upper sloping surface, at Old Bewick, there are rows of cups, horizontal, 15 in one line and 13 in the other. This also is figured by Simpson.

In King's Park, Stirling.—Mr D. B. Morris, in 1901, reported the discovery, on an ice-smoothed surface of dolerite, "of a cup-shaped hollow, outside the rim of which is a well-marked hollowed ring, beyond

¹ This was noticed by Simpson. See *Proceedings*, x. 144.

² *Berwickshire Nat. Hist. Club*, vol. for 1885-86, pl. ii. p. 402.

which is another faintly-marked concentric circular groove. The cup-mark measures $1\frac{1}{2}$ inches across, the inner rim of the first circle 4 inches, and the outer rim 6 inches in diameter. The outer circle if completed would be 9 inches in diameter. The depth of the central hollow is half an inch, and of the inner groove fully a quarter of an inch. The edges are worn."

(5) NOTICES OF RECENT DISCOVERIES OF URNS.

(1) *At Cuning Hill, Inverurie.*—In January 1903 I happened to see in *Scottish Notes and Queries* the statement that an urn had been found on



Fig. 32. View of the Cuning Hill, Inverurie. (From a photograph by Mr James Ritchie, Corr. Mem., S. A. Scot.)

the mound called the Cuning Hill (fig. 32), and at once wrote to Mr James S. Robertson, of Inverurie, for further particulars. On the 5th of February I received the following reply:—

"I have received your letter of 27th ult., and have pleasure in giving you the particulars of the find of the urn. It was my own son, aged 12, who picked up the pieces, and I carefully examined the spot on Cuning Hill, and succeeded in getting one or two more pieces. The charred wood is quite plentiful.

* Cuning Hill is a small mound, about 80 yards in circumference at the base and about 20 feet high. The urn was found on the top, and as near the centre of the mound as may be. . . . I dug several feet down, and came upon clean sand and stones and a layer of clay and sand alternately.*

With the letter came a box containing specimens of the sand and of the charred wood, and several fragments of an urn of the drinking-cup type. Knowing the extreme unlikelihood of such an urn being found without any cist, I again wrote to Mr Robertson, begging him to search carefully about the spot where the urn was found, in view of ascertaining whether any alabs suggestive of a cist might not still remain.

His reply, dated 17th February, was to the effect that "there is no trace of a cist, but one fragment of stone lying at the foot of the hillock was thought by Mr Ritchie, of the schoolhouse, Port Elphinstone, to have a resemblance to a cist stone. It is possible that the stones may have been removed without discovering the urn; the only other alternative is that no cist existed."

Whatever were the original facts regarding the depositing of this urn, the vessel itself is sufficiently remarkable to be worthy of description. Were the fragments pieced together, we should have a drinking-cup urn about $5\frac{1}{2}$ inches in height, $4\frac{1}{2}$ inches across the mouth, and $3\frac{1}{2}$ inches at the base. The lip, which is thin and rounded, has no lines of decoration; and the whole decoration of the outside consists of a series of closely-placed parallel, or nearly parallel, lines impressed horizontally, beginning at a point three-quarters of an inch below the rim, and ending at about one inch and a half above the base.

There are extremely few urns in the Museum¹ bearing this distinctive pattern of decoration; and the only other Scottish specimen apparently identical is the urn—also a drinking-cup—found in 1883 at Tents Muir, near Leuchars, Fifeshire. It is figured² and described by Dr Anderson

¹ A drinking-cup urn from Aberdeenshire, formerly in the Rae Collection, with a fine smooth surface; a food-vessel from a cist at Quirindish, Mull, having about thirty parallel lines done with a pointed tool so as to resemble, on casual observation, the impression of a cord; and a food-vessel from Cairn Curr, Alford, a very squat and inelegant small urn, with what seems a spiral line, done with a coarse fibre.

² *Proceedings*, xvi. 384.

as having ornamentation "of impressions like those of a twisted cord of two strands wound spirally round the vessel from bottom to brim." It is noteworthy also that this Leuchars urn was found "in a hollow between the sand-hills," without any reference being made to a cist. In the fragmentary condition of the urn from Cuning Hill, it is unsafe to state whether the ornamentation runs in parallel lines or is really one continuous spiral.

(2) *At Kinsteary, Nairnshire.*—In the *Edinburgh Evening Dispatch* of 20th March 1902 there appeared an account of the discovery of prehistoric remains in a gravel bank (or kame) in Kinsteary Park, parish of Auldearn, Nairnshire. The following is the substance of the account:—A cist was first found, 4 feet in length, 2 in breadth, and about 18 inches in depth, with a pear-shaped sandstone slab for a covering. The line of the grave was east and west. A skeleton lay in it, the face looking towards the west, the principal bones on a gravel bottom; they were quite dry, but considerably decayed. Though search was made, no other relics were found.

In the same gravel bank, a few yards distant, a beautifully ornamented cinerary urn was discovered some years ago, and it is now in possession of Lady Gordon Cathcart, the proprietrix of the Kinsteary estate, at Cluny Castle.

IV.

NOTICE OF THE DISCOVERY OF A FULL-LENGTH STONE CIST,
CONTAINING HUMAN REMAINS AND A PENANNULAR BROOCH,
AT CRAIGIE, NEAR DUNDEE. BY ALEXANDER HUTCHESON, F.S.A.
SCOT, BROUGHTY-FERRY.

On 16th April (1902) the workmen engaged in making a new road to the north of Stammergate railway station, on the Dundee and Arbroath joint-line, about midway between Dundee and Broughty-Ferry, came upon a full-length burial cist embedded in the gravel, the top of the cist being at a depth of about 14 inches from the surface. The ground here slopes upward with a gentle inclination for a distance of about 200 yards from the bank of the river Tay, but at this point rises somewhat steeply until a height of about 25 feet is attained in a comparatively level plateau of some extent, presumably the 25 feet beach-level known to geologists. The surface soil is of gravel and sand, with a little vegetable soil on the top, but below is a bed of stiff reddish clay, containing many water-rolled and glaciated boulders of gneiss, diorite, and other hard igneous rocks, some of them being from 3 to 4 feet in diameter.

A little to the south of the top of the slope a retaining wall was cut through for the road, but still exists to the east and west of it, and it was at a distance of about 10 yards to the north of this wall, on the eastern side of the excavation for the road, that the cist was located. This had been removed before I heard of the discovery, but Mr George Mackay, contractor, Broughty-Ferry, who had the work, kindly accompanied me to the site and pointed out the spot where the cist was found. I also interviewed Mr William Mackay, station-master at Stammergate, who saw the cist when it was discovered and took charge of the few fragments of bones recovered, and from these gentlemen, as well as from the foreman at the works, the following particulars are derived.

The cist, which contained an unburnt skeleton of a full-grown person, very much decayed, lay east and west. It was about 6 feet in length

and about 2 feet in width. The sides, ends, and cover were formed of thin undressed slabs of stone, set on edge in the gravel, three or four stones to the length of the cist. Two of the largest of the side stones measured respectively 2 feet 3 inches by 2 feet 6 inches, by $2\frac{1}{2}$ inches thick, and 2 feet by 2 feet 10 inches, by 2 inches in thickness. These two stones formed part of the north side of the cist. The workmen had come upon it from the south, and pulled down that side before its true character was recognised: the covers on the top collapsed and got broken, and the overlying earth came down and covered everything up, and it was only when all this was cleared away that some of the bones were discovered, and drew the attention of the workmen to an examination of what remained. Then it was seen that all that was left of the cist were the two slabs noticed above, forming part of the north side.

It is, I am afraid, not now possible to determine at which end the head lay, as the few teeth which have been rescued were picked out of the cart into which the materials of the excavation were at the time being shovelled. It was then also that the brooch was picked up by the workmen. This was shortly afterwards taken possession of by Mr John T. Maclaren, architect, on behalf of Mr D. C. Guthrie of Craigie, proprietor of the ground, and the discovery communicated to that gentleman. On learning that it was of interest as an archaeological relic, Mr Guthrie, with praiseworthy public-spiritedness, instructed Mr Maclaren to hand it to the Society of Antiquaries, for the National Museum of Antiquities. It is a penannular brooch (fig. 1), apparently of iron, but so much corroded by rust that the metal cannot be determined. The pin measures 4 inches over all, while the ring or circled part is only about 2 inches over, ending in slightly swelling knobs. Brooches of penannular form, distinguished by expansions of the ring into bulbous knobs, the head of the pin being similarly expanded, and possessing characteristics which link them with the period of the intrusion of the Norwegian element, have been found in the northern and western districts of Scotland. Several of these are of large dimensions, made of silver, and highly ornamented, but the Craigie brooch is in size and appearance more akin

to the plain brooch of silvered bronze found with a heathen burial in the island of Eigg, the only other example of the type that had hitherto occurred in Scotland.¹ The Craigie brooch is therefore an object of much interest.

"The brooch, with a movable acus or pin, served," says Bloxam,² "to connect one part of the dress with another; by the men it was used to fasten the tunic and mantle on the right or left shoulder, and by the women the vestment in front of the breast." From fragments of cloth found adherent to the pin of the brooches, and from similar impressions on arms and implements discovered in graves of the period, it would

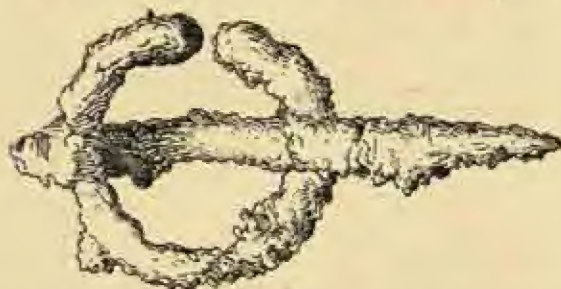


Fig. 1. Penannular Brooch found in a Cist at Craigie, Dundee.

seem that the dead were buried in their customary apparel, together with their weapons and personal decorations.³

Christianity changed all this, but the change was not immediate; on the contrary, it was slow and gradual. Certain grave-goods and ceremonies would, out of deference to the new faith, be omitted; others, from superstitious motives, would be retained.

For this reason it is difficult to assign a chronological sequence to burial phenomena. Broadly speaking, and treating of a special form of brooch differing entirely from the Craigie example (the applying principle being, however, the same), Dr Anderson says, "the effect of pagan-

¹ *Scotland in Pagan Times: The Iron Age*, p. 101.

² *Fragmenta Sepulchralia*, p. 51.

³ *Scotland in Pagan Times: The Iron Age*, p. 42.

ism was that those who had brooches were buried with them. The effect of Christianity was that brooches ceased to be buried with them."¹

The application of this to the period of the Craigie brooch will be considered after the cist has been further dealt with, to which I now proceed.

Numerous discoveries of long and short cists have from time to time been made in the same neighbourhood, and are recorded in various publications. One of the earliest notices, although without details, occurs in Rev. Dr Small's Statistical Account of Dundee in 1793. Referring to the discovery here of several stone coffins with bones, he remarks, "though the most of these are of the common form, some, without any difference in the size of the bones, are only 3 feet square." Apparently here the majority of the coffins had been of the full-length variety, but associated with short cists, where either cremation had taken place or the bodies had been interred in a doubled-up position.

Writing in 1879 regarding a more recent discovery in the same locality, Mr Allan Mathewson, Cor. Mem. S.A. Scot., says, "All the cists that I saw were long ones, and in one instance as many as five were got together." Here, again, we have to lament the entire absence of details. Mr Mathewson merely remarks the presence of a layer of white pebbles over them, but does not state whether the cists were tapered, or at what height above the cists this layer of white pebbles was placed. It is, however, remarked that between the cists and a kitchen midden which lay below them there was a stratum of earth of 8 feet in thickness.² The coffins were probably, therefore, of the tapered variety; and if these referred to by Dr Small as being of the "common form" were also of the same type, shaped like a modern coffin, swelling in the middle and tapered to both ends, it would indicate they were comparatively modern, and clearly belonging to Christian burial. Of this class many were found at Perth a few years ago, in an extension of the general railway station there, and were supposed to have belonged to the burial-ground of a nunnery which once occupied a site in that neighbourhood.

In 1887 I had the opportunity of examining two stone coffins of this

¹ *Scotland in Pagan Times: The Iron Age*, p. 47, note.

² *Proc.*, xiii. 303.

type found on the property of Capt. G. D. Clayhills Henderson, of Invergowrie. These were shaped like the modern wooden coffin, broadest in the middle and tapered to both ends, narrowest at the foot. They were very neatly made and fairly regular in outline, although the stones had not been dressed in any way. The ends were each formed of one stone, but several stones set end to end composed the sides. They had bottoms and covers composed of thin slabs, the covering slabs overlapping the sides, and they lay east and west, with their heads to the west. Both contained human remains, but no other relics.¹

Similar to these were a number of coffins which I examined about fifteen years ago in a sandy hillock at Carlungie, Forfarshire, but here, again, no relics other than bones were met with. Here the covering slabs were of larger dimensions. Indeed, I was informed by a man in the neighbourhood that a great many coffins of the same class had been got in the same sandy hillock; and that when any of the neighbouring farmers wanted a hearthstone for a cottage or a like purpose, he simply sent a man to search the hillock, being certain that in one or other of the stone coffins, which he was sure to come upon, he would find a stone or stones to suit his purpose.

The writer has previously noticed the discovery, at 6 feet under the surface, in Coupar-Angus churchyard, of a long stone cist or coffin formed of slabs set on edge, with paved bottom, but no cover, which doubtless, however, had been removed in some earlier operations.²

Dr Stuart describes fourteen such graves at Hartlaw. They were formed of small stone slabs, with which they were also paved in the bottom and covered above; and other two, similar in other respects to the last, but differed in not being paved in the bottom. They lay east and west, with the head to the west. All appeared to be full-length graves, their average length being about 6 feet, but no other dimensions are given, nor is it mentioned whether they were tapered or parallel-sided. They contained no burnt bones and no relics. He supposed them to have been early Christians' graves, placed in groups not yet

Proc., xxii. pp. 167-8.

² *Ibid.*, p. 147.

attached to any church,¹ and mentions that some long stone cists had been discovered in and about the ruined chapel of the Kirkheugh, St Andrews, which was the site of an early Culdee settlement.²

Other references might be given,³ but sufficient has been said to indicate this variety of the long cist.

While usually in groups, as here pointed out by Dr Stuart, they are occasionally found to accompany groups of short cists, as at Barnhill Links, near Broughty-Ferry, where a long stone cist (which, along with an unburnt interment, contained an urn) occupied the centre of a cairn, in and around which were grouped seven short cists.⁴

Sir R. C. Hoare discovered a like association of long and short interments. Lowermost was the primary interment by inhumation with the legs doubled up, the secondary interment by cremation, and on the top a third by inhumation at full length.⁵

Such association of long and short interments may arise either from a change in the fashion of burial by the same race, in which case the long cist may indicate an example of transition assignable to Early Christian times, or by a different and subsequent race, evincing that attachment to ancient burial sites adverted to by the writer in his notice of the discovery of a Bronze Age whetstone in the burying-ground attached to the parish church, Coupar-Angus;⁶ and in other

¹ It is not necessary in such a case to suppose the absence of a church. Early churches constructed of wattle and clay or of turf, when they fell into disrepair, would soon vanish under atmospheric influences.

² *Proc.*, vi. pp. 56, 58 and 61. See also *Sculptured Stones of Scotland*, vol. ii. 60, 61, etc.

³ For a notice of full-length cists recently discovered in Uphall parish, with references to other instances, see *Proc.*, xxxv. pp. 325-326.

⁴ *Proc.*, xl. p. 311 and xli. p. 320; other instances are given by Dr Stuart, *Sculptured Stones of Scotland*, ii. 61.

⁵ *Moxon's Frequentia Sepulchralia*, p. 17. This last was, however, the body of a child, and there is evidence that even in the Stone Age, when adults were interred in a sitting posture, the bodies of children were usually laid in an extended position. See *Nilsen on the Stone Age*, Lubbock's edition, London, 1868, p. 129.

⁶ *Proc.*, xxii. p. 147. Short stone cists have also been found in the same burying-ground. John Morn, gravedigger there, told me he had taken out at least three such containing human remains.

instances observed by him, particularly the discovery which he made in 1891 of the remains of a burial cairn of the Bronze Age, with underlying urns and cremated remains, in the south-west angle of the parish churchyard of St Madoes, Perthshire, not hitherto recorded.

It is not, however, very certain that full-length burial was practised to any great extent before the beginning of the Christian era.

The long stone burials by inhumation found in Scotland may be taken as exhibiting four types, taking them in their chronological sequence, although the first and second were probably in the time of the latter contemporaneous.

First.—Parallel or roughly parallel-sided cists, composed of several undressed slabs set on edge in the ground, long enough to contain the body in an extended position, and having similar stones for covers, but not always paved in the bottom.

Second.—Enclosure by slabs of stone set on edge in the ground, but with no stone cover or sole.¹

Third.—Similar to the first class, but shallower, widest opposite the shoulders and tapering to both ends, like the modern timber coffin, and having stone covers, and generally paved in the bottom.

Fourth.—The mediæval stone coffin, hollowed out of a single stone, only mentioned here to complete the series.

To take the second class first, the burials are full-length, unburnt and with grave-goods, such as iron weapons of war, implements of labour, and personal ornaments. These Dr Anderson ascribes to the Viking period of the Northmen in Scotland. The first class of roughly parallel-sided cists find example in the Barnhill cist, and now in the Craigie cist. The difference is that the former contained an urn, occupied the centre of a cairn of stones, and was associated with short cist burials, clearly attributable to the Bronze Age. The Craigie cist, on the other hand, has no such association; here there was no cairn nor even mound visible, although, had such existed, it is only fair to say it would probably have been levelled in agricultural operations.

¹ *Scotland in Pagan Times: The Iron Age*, pp. 14, 33, 54, 55.

The presence of the penannular brooch is also a factor in increasing the distinction. It is impossible to maintain any other association between these two examples of the first class than that of form and materials of cist, but it is also impossible to ignore this point of resemblance. The brooch would seem to suggest for the Craigie burial an element of association with the Norwegian influence affecting the second class, but the evidence is too scanty to warrant a definite conclusion.

As Dr Anderson has pointed out, we are as yet entirely without any recorded observations bearing on the burials of the period. Hundreds of such interments may have been shovelled away without any notice being taken of them; and even when noticed, the very details which we desiderate are usually deemed too trivial for recording; and I fear it will continue to be so until we shall be able to employ more careful methods of examining and recording such discoveries.

MONDAY, 13th April 1903.

ROBERT MUNRO, M.D., LL.D., Vice-President, in the Chair.

A Ballot having been taken, the following were duly elected Fellows :—

R. FITZROY BELL, of Temple Hall, Coldingham, Advocate.

G. L. STIRLING-COOKSON, of Renton House, Berwickshire.

Sheriff DONALD CRAWFORD, 35 Chester Street.

WALTER LAIDLAW, Abbey Cottage, Jedburgh.

JOHN HUNTER TAIT, Advocate, 43 Moray Place.

The following Donations to the Museum and Library were laid on the table, and thanks voted to the Donors :—

(1) By JAMES HOGARTH, Kirkcaldy.

Six small oval knife-like Implements, of Pitchstone, probably from a *tribulum* or threshing machine, found in a cargo of beans imported from Smyrna. The *tribulum* or threshing machine still used in the east is thus described by Sir John Evans in his *Ancient Stone Implements of Great Britain* (2nd edition, p. 284), where there is also a figure of the instrument :—"They are flat sledges of wood, five to six feet in length, and two to three in breadth, the under side fitted with a number of square or lozenge-shaped holes, mortised a little distance into the wood, and having in each hole a flake or splinter of stone. As each is provided with some hundreds of chipped stones, we can readily understand what a number of rough flakes might be left in the soil at places where they were long in use. The method of their use is that the straw with the grain on it, as it comes from the reaped fields, is spread on a piece of hard-trodden ground called the 'threshing floor,' and the *tribulum*, yoked usually to an ox, with the driver seated upon it, is driven round and round over the straw until the grain is separated from it by the action of the sharp flints on the under side of the sledge."

- (2) By WM. MANSON, Jun., through Rev. DAVID JOHNSTON, F.S.A. Scot.

Bottom of a Steatite Vessel, and two fragments of Slaty Sandstone, with oblong holes near the centre, found in digging out a mound at West Quarff, Shetland.

- (3) By H. W. SETON-KARR, M.P.

Six Palaeolithic Stone Implements, from Poondi, Madras.

- (4) By B. HOWARD CUNNINGTON, F.S.A. Scot., Devizes.

Nineteen Palaeolithic Flint Implements, from a gravel pit at Knowle, in Savernake Forest, Wiltshire.

Mr Cunnington says in his note accompanying the donation:—"I have sent a box of flint implements from a gravel pit at Knowle in Savernake Forest. I have found nearly 1000 there myself, and I know of nearly 4000 having been found besides. Well-finished examples are scarce. I include among those sent an implement and a piece of flint as exemplifying the polish that is exercising the minds of many archaeologists. Personally, I cannot get away from the theory of water or river-bed polish, with fine sand and water continually flowing in one direction. Many of the implements seem shaped to fit the hand. I have only found one example that (plainly) could be mounted on a handle. The edges are usually sharp."

- (5) By Mrs BROWN, Arkland, Canaan Lane.

Two-pronged Fish Spear, found on the beach near Skipness.

- (6) By JAMES SHARP, 6 Gillespie Crescent.

Large Baking Brander of Wrought Iron, from Strathspey.

- (7) By Professor DUNS, D.D., F.S.A. Scot.

Ethnographic Collection, consisting of eighty-seven specimens, from

India, Africa, South America, Australia, New Zealand, and the Pacific Islands.

(8) By GEORGE F. BLACK, Public Library, New York.

Antique Jewelry and its Revival. By Signor A. Castellani.

Copper Implements from Wisconsin. By H. P. Hamilton.

Telegraphing among the Ancients. By Augustus C. Merriam.

(9) By Dr W. CHAMOND, F.S.A. Scot.

The Tragic History of the Abercrombies. By D. Murray Rose.

(10) By the TRUSTEES OF THE LATE MARQUESS OF BUTE.

The Arms of the Baronial and Police Burghs of Scotland. By John Marquess of Bute, K.T., J. H. Stevenson, and H. W. Lonsdale. 4to, 1903.

There were also exhibited :—

(1) By JOSEPH DOWNES.

An Arrow-head of Flint, $\frac{3}{4}$ inch in length by $\frac{1}{2}$ inch in breadth, with barbs and stem; a minute Flint Scraper, of quadrangular form, $\frac{3}{4}$ of an inch square, and a small lozenge-shaped Plaque of Bronze, with five cups and circles on each face, from the sands of Shewalton, near Irvine.

(2) By D. HAY FLEMING, LL.D., F.S.A. Scot.

Silver Penannular Armlet, $2\frac{1}{4}$ inches by 2 inches in diameter, with twenty loops on one side, found at The Braes, St Andrews.

Silver Plaque (fig. 1), shaped like a book-clasp, $1\frac{1}{2}$ inches by $1\frac{1}{4}$ inches, with a magic square engraved in old Arabic numerals on one face, obtained from a jeweller in St Andrews. The square is the common one of 16 sub-divisions, the figures in which when added horizontally, vertically, or along each of the diagonals make the same sum of 100. But the workman who punched in the figures has made two mistakes.

In the last sub-division of the second horizontal line of numbers he has reversed the sign for 2, thus making it 6, and the same mistake occurs in the second sub-division of the third horizontal line of numbers.

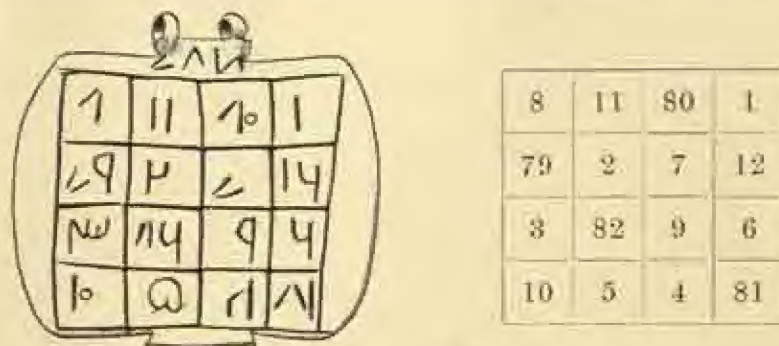


Fig. 1. Magic Square in Arabic Numerals, on a Silver Plaque, shaped like a Book-Clasp.

Small Jar of Red Earthenware, 4 inches in height by $2\frac{1}{4}$ inches in greatest diameter in the middle, narrowing to $1\frac{1}{4}$ inches diameter at the bottom and $1\frac{1}{2}$ inches across the mouth, dug up at St Andrews.

(3) By Dr A. C. Sym, through N. J. COCHRAN-PATRICK, F.S.A. Scot.

A Medal Calendar for the year 1793.

The Psalms in Metre, in the original binding. Printed in Edinburgh, 1675.

The following communications were read:—

I.

NOTE ON INGRAM OF KETHENYS; WITH OBSERVATIONS ON HIS MONUMENT IN THE PARISH CHURCH OF TEALING. By Right Rev. JOHN DOWDEN, D.D., F.S.A. Scot.

In the Proceedings of the Society for 10th January 1896 (vol. xxx. pp. 41-48), will be found a valuable communication from Mr



Fig. 1. Mural Monument in Tealing Church.

Alexander Hutcheson, F.S.A. Scot., in which is described a mural monument (fig. 1) in the Parish Church of Tealing, Forfarshire. The monument is that of Ingram of Kethenys, "ersdene of Dunkeldyn," who, according to the inscription, died in the year 1380. From the Registers of the Procurators of the English Nation in the University of Paris, Mr Hutcheson was able to give some interesting particulars of the student days (1344-1347) at Paris of three brothers, John, Robert, and Ingram of Kettins. There can scarcely be a doubt that

the last named is the same as the Ingram of Kethenys whose monument has a place at Tealing.

The following remarks must be considered only as supplemental to the communication by Mr Hutcheson; and they are based on material which has become generally available since the date of his communication.

The publication of the *Calendar of Papal Registers* has thrown a flood of light on several obscure problems in the history of the medieval Church in Scotland. The volume of Petitions (1896) and vol. iii. of the Letters (1897) afford several particulars concerning the three brothers referred to. The name Kethenys (Kethenis, Ketenis, Ketnesee), as used to indicate a family, is so rarely found in record that we are probably justified in identifying the persons named in the Papal archives with the three students, young men who had pursued their studies in Paris under Master Walter de Wardlaw.

The brothers, or some of them, are found studying in Paris from some time before 1344 to 20th June 1347, when Ingram was exempted from undergoing certain graduation ceremonies connected with his licence as Master of Arts, on his paying his customary fees, on the ground that he was returning to his native country.¹

Already, on 25th January 1345, Pope Clement VI. had sent a mandate to the abbots of Cupar and Seone, and to the prior of St Andrews, to give to Ingram de Kethenis "the church of Blaar."² This benefice we find that he afterwards possessed.³

Ingram de Kethenys and his brothers enjoyed the favour of both the king and the queen. We find that they were nephews⁴ of John [de Pilmore], bishop of Moray; and it was perhaps through his influence that we find David, king, and Joan, queen of Scots, uniting with the bishop of Moray in 1347 to petition the Pope on behalf of Ingram de

¹ See *Proceedings*, etc., *loc. cit.*

² *Cal. Pap. Reg. (Lett.)*, iii. p. 184.

³ As will be seen below, it is elsewhere described as "Blair in the diocese of St Andrews," and is doubtless Blair in Gowrie.

⁴ *Id.*, 463.

Ketenis, of the diocese of St Andrews, licentiate in Arts, for a canonry of Aberdeen, with reservation of a prebend.¹ This was granted on 18th May 1347.

We next find the queen and the bishop of Moray petitioning on behalf of Ingram, now described as Master of Arts, for a canonry and prebend of Moray, notwithstanding that he has the church of Blare in the diocese of St Andrews, and a canonry of Aberdeen, with expectation of a prebend.² This petition was granted on 10th May 1349.

In 1350 a yet more influential patron is found for the brothers, John de Ketenis, M.A., "clerk of the queen of Scots," and Ingram. Philip, king of France, joins with the queen and the bishop of Moray in petitioning for further preferment.³ And on 13th June 1350, the Pope grants to Ingram de Ketenis, M.A., rector of Blare, canon of Moray and canon of Aberdeen, a dispensation to hold an additional benefice. This notice adds the important information that Ingram was now secretary of the queen.⁴ From the petition it appears that his brother John was seeking an office or dignity in the cathedral church of Glasgow; he having then the church of Fern (in the diocese of Dunkeld), and a canonry of Dunkeld, with expectation of a prebend.

A year later, on 13th June 1351, the Pope grants to Ingram, at the request of the king of France, the queen of Scots, and the bishop of Moray, a canonry in Glasgow void by the consecration of Philip, bishop of Brechin, notwithstanding that he was incumbent of Blare, canon of Moray, canon of Aberdeen, and expected a dignity in Moray.⁵

The date of the appointment of Ingram to the archdeaconry of Dunkeld does not appear from the records at Rome as published in the *Letters of the Calendar of Papal Registers*. But that he was archdeacon of Dunkeld, and was advanced to a yet higher dignity, is apparent from an entry in the volume of *Petitions*, dated 26th February 1378. On that day Clement VII. (Anti-Pope) *proprio motu*, makes provision to

¹ *Cal. Pap. Reg.* (Petit. i.), p. 110.

² *Id.*, 157.

³ *Id.*, 201.

⁴ *Cal. Pap. Reg.* (Lett.) iii., 392.

⁵ *Id.*, 414.

Master Walter Trayl, M.A., licentiate in canon and civil law, canon and treasurer of Glasgow, auditor of the apostolic palace, of a canonry, prebend, and the archdeaconry of Dunkeld, on their voidance by the consecration of Ingram de Kethenys to the See of Whiteherne.¹

From this notice, taken together with the inscription on the monument, it is evident that Ingram did not enjoy the See of Whiteherne for many months, if indeed we can regard it as certain that he was ever consecrated. This last doubt is raised by the fact that it was not uncommon to petition for benefices that were expected to fall vacant.

Hitherto the name of Ingram de Kethenys as a bishop of Galloway has been unknown to history. It may be noted that the information as to the appointment of Ingram to the bishopric is derived, not from the *Papal Letters*, but from the volume of *Petitions*. This is only one example, out of many, of important facts being revealed only by the *Petitions*. And it is with profound regret one hears the rumour that the Master of the Rolls has directed the discontinuance of the calendaring of the *Petitions*. It is to be hoped that wiser counsels will prevail.

Again, there was certainly a new bishop of Whiteherne, of the succession appointed by the Anti-Popes, in the year following the death of Ingram, as recorded on the epitaph. On 21st December, 1381, Clement VII. (Anti-Pope) granted a long roll of *Petitions*, presented by Thomas, bishop of Whiteherne.² Here, again, we have another example of a fact in the ecclesiastical history of Scotland that would have been unknown but for the volume of *Petitions*.

The absence from the inscription on the monument of any reference to the elevation of Ingram to the episcopate cannot be used as an argument for his not having attained the episcopal dignity, if we accept the view put forward by Mr Hutcheson that the inscription on the slab was sculptured (in the greater part) during the lifetime of him whom it was meant to commemorate. The large space after the numerals

¹ *Petitions*, 540.

² *Id.*, pp. 563-4.

"lx" in the fourth line is certainly suggestive of that view, which I am disposed to believe is correct.¹

But I see no reason for supposing that Ingram de Kethenys was more than sixty years of age when he died, but only that the space left happened (as it turned out) to be unnecessarily large. The words "made in his xxxii yhere" would seem, at first sight, to apply to his appointment as archdeacon. If this view be correct, Ingram would have been appointed about 1352. Now the question arises, Is there anything in record which supports or militates against this view? On 28th January 1348, we find Robert de Den holding the archdeaconry of Dunkeld.² But before 23rd September 1349 he had died, for on that day Pope Clement VI. provided to the archdeaconry, "reserved to the Pope in the life-time of Robert de Den," Master Walter de Wardlaw, presumably the same who was Procurator of the English Nation when the three brothers de Kethenys were students at the University of Paris.³ But if he ever obtained possession of this office he could have enjoyed it for only a very short time, for Adam de Pullmour was archdeacon, and had died before 13th July 1352, when John de Athy, canon of Dunkeld, was provided by the Pope to the office and dignity.⁴ After this the records are silent and perhaps defective. But it must not be assumed that because the archdeaconry was provided to John de Athy that he succeeded in obtaining it. Again and again the records show that papal provisions were frequently ineffective; and the rapid changes in the holders of the archdeaconry of Dunkeld which we have

¹ For the convenience of the reader the inscription, as read by Mr Hutcheson (*Proceedings, etc.*, xxx. p. 42), may be here transcribed:—

"✠ : heyr : l̄pis : Ingram : of : kethenys : prist
maystr : ī : aril : ersdene : of : dūkeldd̄ : made : ī : his
xxxii : p̄hete : p̄p̄is : for : hym : gal : depl : h̄ala
nd : lx : p̄herys : of : egld : in : the : p̄her
of : cryst : ⁊ : rē : lxxx."

² *Cal. Pap. Reg. (Letters)*, iii. 245.

³ *Id.*, 315.

⁴ *Cal. Pap. Reg. (Petitions)*, i. 230.

just recorded suggest the possibility that if John de Athy ever enjoyed the archdeaconry he may not have held it long. We do not hear of him again.

So far, it must be admitted that the evidence, such as it is, makes rather against the notion that Ingram de Kethenys succeeded in 1352 or thereby; but it is not fatal to it. This enquiry is, however, quite decisive that he was not archdeacon of Dunkeld *before* 1352, unless we imagine, what is in the highest degree improbable, that he had been archdeacon before Robert de Den had resigned, and was again appointed: for he was certainly archdeacon when the *See of Galloway* was provided to him in 1378. And every difficulty we have to encounter in supposing that the words "made in his xxxii yhere" refer to his appointment as archdeacon apply equally to the supposition that they refer to the making of the monument.

We have further to note that the supposition that we ought to add to the number "lx" (given as the years of his age) only increases the difficulty.

On the whole, then, the record evidence is not incompatible with the evidence that seems reasonably derived from the inscription, namely, that Ingram de Kethenys was made archdeacon of Dunkeld about 1352; and held that office till his consecration (if he were ever consecrated), after his appointment to Galloway. It is perhaps most reasonable to suppose that he was never consecrated, and held the archdeaconry till his death.

Mr Hutcheson in his paper¹ writes: "The church of Tealing is about four miles north of Dundee, and was in the diocese of Dunkeld, but it is unlikely that any official appointment would have been found for an archdeacon in such an isolated rural district, and there was probably some territorial reason for his transference to Tealing." But in the days when the possession of a cure did not involve continuous personal residence, or, indeed, residence at all, if a vicar were appointed, there was nothing to make the parish of Tealing unsuitable as the

¹ *Proceedings, etc.*, vol. xxx. p. 45.

prebend, or part of the prebend, of the archdeacon of Dunkeld. The duties of an archdeacon were duties that concerned alike every parish in the diocese. And it was a matter of indifference where his prebendal church was situated. And Dr J. Maitland Thomson has been so good as to furnish me with evidence that, at all events in the sixteenth century, the connection of Tealing with the archdeaconry of Dunkeld was a fact. In a law-suit of 1563 the kirks of Tealing and Logieallochie appear as pertaining to the archdeaconry of Dunkeld (*Acts and Decrets*, xxviii, 95). Dr Thomson adds: "The rental of the archdeaconry in the Book of Assumptions, though the name Tealing does not occur in it, consists of teinds due from certain lands, the names of which show that they were in the parish of Tealing, followed by a like list of lands in Logieallochie, of which parish the name is given."

In the year 1206 Pope Innocent III. confirmed to the prior and brethren of St Andrews, among other churches and possessions, "*ecclesiam de thelin*."¹ It appears, from another charter in the *Register of the Priory of St Andrews*, which is probably not far removed in date from the papal confirmation, that the canons had then "*institutionem et liberam administracionem ecclesie de thelen et liberam facultatem eandem ecclesiam disponendi*."²

Having free power to dispose of the church of Tealing, the canons, it must be inferred, exercised that power by presumably exchanging the right of presentation for some equivalent, and that thus the benefice became a prebend of Dunkeld.

It may be mentioned that Bolamund, for the year ending on the Nativity of St John Baptist, (24th June) 1275, received as a tithe of the *verus valor* of "Telyu," in the diocese of Dunkeld, 37 shillings and 2 pence three farthings; which gives the value of the benefice for the year as £18, 12s. 3½d. The next year it is almost precisely the same (Theiner's *Monumenta*, pp. 112, 116). This income, though not so good as that of a few other churches, is much better than that of the large majority of the churches in the diocese of Dunkeld.

¹ *Regist. Priorat. S. Andree*, p. 72.

² *Ib.*, p. 326.

II.

NOTES ON THE DISPUTED TOMB OF MARY OF GUELDRÉS, QUEEN OF JAMES II., AND THE STUART VAULT IN HOLYROOD. By JOHN SINCLAIR, F.S.A. Scot.

Fifty-five years have passed away since the demolition of the venerable Trinity College Church of Edinburgh, and the controversy over the search for the remains of Mary of Gueldres, the pious foundress, is well-nigh forgot. The members of our Society still alive, who were then grown men, are but few, and the controversy, now but a memory, is only to be found in our Society's Proceedings of that time. This quiescent state of matters has hitherto given no signs of reopening the unsatisfactory discussions of 1848 and 1862 as to the unearthing of the remains of Mary of Gueldres, but quite recently the reappearance of both claimants gave motion to the thoughts of those more immediately informed.

The subjoined notes flow from what came under the personal observation of the writer, and have arisen from an after discovery consequent on the restoration of the Royal Stuart Tomb in the Chapel Royal of Holyrood by Her late Majesty the Queen. It may be as well here to say that a fairly full and accurate account of that much-called-for restoration has never yet been afforded, and is here necessary as an introduction to these notes.

It is well known that no precise date or person can be fixed upon for the origin of this tomb. Usually it is assigned to the period after the death of James V., when the remains of David II., James II. and others were disinterred from separate graves and placed therein. The mean look of the place indicates that it had been a work of haste in a time of trouble, and an inspection of the interior certainly confirmed that belief. True, the mad mob of 1688 did their worst, but there were no remains to be seen of what might have been expected from a Royal Mausoleum. The Stuart Tomb is of the plainest description,

the only attempt at ornamentation being a floriated scroll extending along the north front a few inches from the top. The exterior measurement gives an area of 15 square feet. The front elevation is 7 feet 6 inches. The Norman Arch at south side is 6 feet in width and 12 feet in height, 4 feet 6 inches of which reach above the roof of the vault. The door of entrance to the north is 3 feet 6 by 2 feet 3½ inches. The moulding over the door is 5 inches in depth, the front is of dressed stone, the roof flagstones, and the west side next the Roxburgh Tomb is rubble. The interior, as inspected a short time before the death of Her late Majesty, was simply an earth-beaten square of most uninviting aspect, the descent being by a deep step through the narrow entrance. At the south side stood upright large flagstones, not unlike headstones in a churchyard, evidently erected as blinds against prying eyes through the open sparred iron gate. Behind these tomb-like stones was the old Norman Arch which in time of James IV. formed the egress from the Abbey to the cloisters and his newly-erected palace. This doorway is of great thickness, and a partition had been run across and stone shelves inserted, on which, "gleaming in their chalky whiteness," lay the bones of generations of the Royal Stuarts, hidden only from public view by the stone erections.

There was no discrimination or signs of sepulchral order with these remains. Only could be discerned what might be the thigh bones of the six-foot-two Daniley intermingled with the infantile remains of the sons of James IV. and V.—both princes of Albany; and those of what were doubtless other adults of this royal house. On the bottom shelf rested the gaudy coffin of 1848, brought down with magisterial pomp and circumstance from old Trinity College Kirk, and declared to be the remains of Queen Mary of Gueldres. Of all these kings, queens, and princes mouldering and uncared for, only the resurrected lady of 1848 was named, confined and intact. The disorderly mass of bones, old and young, spoke plainly of the mad rioting mob.

The only record we have of the previous state of this tomb is contained in a manuscript held in the Advocates' Library, showing that

an official visit by procurement of the Bishop of Dunblane was made five years before the Revolution of 1688, when it was violated and the contents destroyed. The bishop was present, "Lord Strathnavar and E. Forfare, Robert Scott, minister of the Abbey, and others." We are told that they viewed the body of James V. in both wood and lead coffin, and in an embalmed condition, and that they saw some lead plates giving his titles and particulars of his death. This coffin must have been on trestles or some raised erection, because the account next tells us that in the arch—that is, on the stone shelves—was a shorter coffin (the shelf being only six feet across) with the teeth in the skull, also with a leaden inscription, and two gilded "floor-de-leuces" and a leaden crown, showing it to be the body of Magdalene of France, "*Sponsa Jacobi V.*"; and beside this coffin lay the coffins of two children, one in lead, the other in wood. Next the king's body "lay in a gret coffin of lead with the body in it." This body, they agreed, was that of Lord Daruley; and at the east "lay a coffin with the skull sawn in two, and an inscription in small letters, gilded upon a square of ye lead coffin, making it to be ye bodye of Dame Jane Stewart, Countess of Argyle," natural daughter of James V. It is quite clear that the order and arrangement of this place of sepulture in 1683 was pretty much as found on inspection a few years ago; that is, the greater coffins lay in the outer or open space of the tomb, while the smaller were laid on the stone shelves in the Norman Arch.

This, then, was the state of matters when the Board of Works, under directions of Her late Majesty, set about the reconstruction of the interior. An inner tomb of polished stone was built within the original, but still having the old Norman Arch of David the First as its back wall.¹ A coffin for the regal remains followed, and the bones of the

¹ It is curious to reflect that this doorway, now the Stuart Sepulchre, formed on 7th August 1503 the exit by which James IV. led his Tudor child bride from the altar when they had performed their devotions that day of her arrival at the Abbey, "in a most loving manner . . . out of the Church, through the cloisters to her apartments in the adjoining Palace" which he had built for her; that being the palace burned by Cromwell in 1650.

Stuarts were reverently deposited and sealed up at sight of a high official. The two coffins were then replaced on stone shelves and left to a new lease of undisturbed repose. The inner tomb being completed and the lady of the sacristy of Trinity College Kirk consigned to her former position, an outer door of oak was placed inside the iron sparred gate, and a handsome plate of bronze in old English characters affixed. This plate bears a singularly interesting narration, which, along with every step in the proceedings, had the sanction and supervision of Her Majesty the Queen :—

"This Vault of the Scottish Kings contains the remains of David II. ; of James II. ; and his Queen Mary of Gueldres ; of Arthur, third son of James IV., of James V., his Queen Magdalene, and second son Arthur, Duke of Albany ; and of Henry Lord Darnley, consort of Mary Queen of Scots. Their resting place was desecrated in the year 1688 ; but in September 1898, these remains of her Stewart ancestors were reverently collected and entombed by command of Queen Victoria."

This reverential act of Her Majesty, which again showed not only her regard for her Stewart ancestors, but her singularly good taste, seemed to leave the much disturbed Trinity College lady finally at rest. The interior of the Chapel Royal, however, coming in for a share of the renovations of the last few years, the incised tombstones were carefully levelled, new turf laid, and a system of surface drainage carried out, and it was during these operations that the controversy betwixt Dr David Laing and Dr Daniel Wilson was again recalled. Dr Wilson, writing of the second discovered Mary of Gueldres, says :— "The lead coffin with its enclosed remains were accordingly placed in a wooden coffin, and interred in Holyrood Chapel, *outside* the royal vault."¹ David Laing says :—"In the meantime, the leaden coffin, containing, as I believe, the mortal remains of Mary of Gueldres, the Queen of James II., is also there deposited, waiting for a more worthy receptacle to be prepared than the so misnamed Royal Vault in the Abbey Church of Holyrood."²

The spot selected for the re-interment of the second found coffin of

¹ *Proceedings*, vol. iv. p. 559.

² Vol. iv. p. 573.

Trinity College Kirk, declared by David Laing to be that of the real Mary of Gueldres, was outside the royal vault (fig. 1), in front of the great



Fig. 1. View of entrance to the Stuart Tomb, showing also the gravel walk in front, where the second-found remains from Trinity College Church were re-interred. (From a photograph by G. W. Sinclair.)

eastern window (where the high altar stood), in a straight line running north from the tomb—at the spot where Mary of Guise received the Scottish Crown, and Mary Stuart was joined in wedlock to the ill-

starred Henry Darnley by John Sinclair, Dean of Restalrig and Bishop of Brechin. And it was here that during the late renovations in Holyrood the second found of the rival claimants for the motherhood of James Third came again in evidence. The leaden shroud and skeleton had been enclosed in an outer chest of wood, when they were brought from the high altar of Trinity College Kirk and placed in the sacred ground of the high altar of the Holyrood of King David; and here, below the gravelled walk, the operations disclosed the wooden shell of the disputed remains, where they had been re-interred half a century before. Had both coffins been found at the demolition of the church, on that 22nd May 1848, there is an almost certainty that David Laing, head and shoulders above Dr Wilson, would, aided by Joseph Robertson and others, have carried the leaden shrouded lady who lies under the gravel walk into the vault of the Stuarts, beside the bones of James II. And who knows but had the second of the rival Queens thrown off her gravel shroud in time, she might have found sepulture in the royal vault at its renovation?

III.

CHURCHYARD MONUMENTS AT NEWBATTLE. BY REV. J. C. CARRICK, B.D., MINISTER OF NEWBATTLE: WITH ILLUSTRATIONS FROM PHOTOGRAPHS BY P. M. MACINTYRE, ADVOCATE, F.S.A. SCOT.

The parish of Newbattle has no fewer than five separate places of burial.¹ The ancient chapel of Bryans, which has entirely disappeared, stood on the hillside above the Esk valley. A stone holy-water basin was quite recently recovered from amid the farm buildings which cover the site of the ancient place of worship. The churchyard can still be traced by the large and aged trees surrounding the site. The byre of Bryans farm is paved mainly with the old tombstones, which have their inscribed faces turned downwards.

In the flower garden of Newbattle Abbey, and around the walls and vicinity of the house, skeletons of monks with fragments of their white habits have frequently been found, laid to rest under the shadow of St Mary's pile, as the ecclesiastical dignitaries found their final repose beside the altar. Inside the abbey were the grave and monument of Mary de Couci, Queen of Alexander II. The abbey was, in its palmy days, not only the favourite resort of Scottish royalty but also a specially desired resting-place for royal and noble dust.

Father Hay (Dipl. Col. III, 34. l. 10), quoting an older authority, says: "In the midst of the church was seen the Tomb of the queen of Alexander, of marble, supported on six lions of marble. A human figure was placed reclining on the tomb, surrounded with an iron grating."

Only about a hundred yards from the original site of the abbey, now marked out in the gravel, the abbey church was rebuilt; and it was in this second church that Leighton preached. The church was in 1727

¹ A sixth burial-ground is said to have existed near Westhouses, in the upper part of the parish, and several old people have asserted that it was the place of interment for the village of Westhouses, once a large township with a school, immediately below the "Roman Camp."

removed once more to its present position and rebuilt, about a hundred yards towards the south, so that in a triangular space, with each side about a hundred yards in length, the church has stood successively at each point of the triangle. The only remaining portion of Leighton's church is a small vault, probably constructed of the stones left over after the second rebuilding of the abbey stones into the present edifice.

The Marquis of Argyle (eighth earl and first marquis), who was beheaded with the maiden at the Cross of Edinburgh, on May 27th 1661, is closely associated with the Lothian family, which, like the house of Argyle, was warmly attached to the reformed and covenanting cause. His second daughter, Lady Jean, became the wife of the first Marquis of Lothian. After Argyle's execution, his head was exposed on the west side of the Tolbooth. His body was carried first to St Magdalene's Chapel in the Cowgate, and thence to Newbattle, where it rested for a few days in the old church. The head remained on the Tolbooth spike for a fortnight, when Charles II. having given a warrant for its removal, the body was brought from Newbattle, and they were together laid in the family sepulchre of St Mund at Kilmun.

This vault or "Isle" (as a marble slab on the outside door describes it) became the place of sepulture for the Lothian family all through the eighteenth and part of the nineteenth century. Possibly the vault may have existed beneath the church as a family burying-place for the house of Lothian. On the front of the vault there have within the last few years been erected two white marble slabs built into an ornamental wall-door with the names of the various members of the house interred within. Around this vault the trees are particularly fine.

The latest of Newbattle burying-places is the new family cemetery of the house of Lothian, laid out beside the river Esk and near the great gate where, beside an uncle and aunt, the late beloved and distinguished Marquess of Lothian sleeps. A fine celtic cross has been raised over the grave of one whom this Society will never forget.

The following inscriptions are on the tablets of what used to be called the "Lothian Isle":—

"The front of this isle was enlarged by Gen. Lord Mark Kerr A.D. 1888. Jean, Marchioness of Lothian, built this isle in the year of our Lord 1705. (I. Tablet.) Mark Kerr of Newbattle (the last abbot) died August 28, 1584. Lady Helen Leslie, wife of Mark Kerr, d. Oct. 26, 1594. Mark Kerr, 1 Earl of Lothian, d. 1609. Lady Anne Kerr, Countess of Lothian, d. Mar. 26, 1667. William, 3 Earl of Lothian, d. Oct. 1675. Robert, 1 Marquess of Lothian, d. 16 Feb. 1703. Lady Jean Campbell, wife of the 1st Marquess, d. 31 July 1712. Lady Jean Campbell, wife of 2nd Marquess, d. Dec. 27, 1787. William Henry, 3 Marquess, d. 29 July 1767. William, 4 Marquess of Lothian, d. April 12, 1775. (II. Tablet.) Lady Caroline D'Arcy, wife of 4 Marquess, d. Oct. 1778. William, 6 Marquess d. 2 April 1824. Lady Henrietta Holart, wife of 6 Marquess, d. 1805. Lady Jean Kerr, Lady Cranston, d. of 2 Marquess of Lothian. Mistress Jean Cranston, d. of Jean, Lady Cranston. Lord Robert Kerr, son of 3 Marquess of Lothian, killed at Culloden, April 16, 1746. Col. Lord Robert Kerr, son of 5 Marquess of Lothian, d. 1843. Lady Robert Kerr, d. 1859. Four children of Lord and Lady Robert Kerr."

The present churchyard of the parish is one of the most picturesque in all Scotland, surrounded as it is with magnificent trees, and laid out and kept with the most devoted care, a wonderful contrast to its condition in older days when the grass was allowed to grow knee-deep and the sacrilegious sheep dined off its rank growth. Sir Walter Scott, when residing at Lasswade, used frequently to visit this ideal resting-place for "Old Mortality." Newbattle churchyard was a hunting-ground with the Edinburgh Resurrectionists. Only within recent years has the old resurrection-house been swept away. The only specimen of the class now surviving in the district is that in Dalkeith churchyard,—a very complete specimen of the kind, with its round red-sandstone tower, battlemented top, and narrow port-holes round and round. The Newbattle house was built against the east wall, half way down, and was roofed.

At the bottom of many of the old graves the heavy irons are still come upon which were used to bind the coffin down to the earth and thus assist in hauling the body-stealer. Traditions are still numerous of fights with the body-snatchers, and it is certain that at least one death resulted from these contests.

Among the many relics connected with the ecclesiastical establishment of Newbattle—Leighton's library, communion plate,¹ hour glass, etc.—there is the "funeral hand-bell," with "(1616 $\frac{M}{L A}$)" as an inscription signifying "James Aird, minister." The bell, which is of coarse construction, has an iron handle in the shape of a leg-bone. Before a funeral took place the sexton paraded the parish, ringing his tocsin, and announcing all particulars of hour, place, etc. The old funeral road from Dalhousie to the churchyard (though now closed to the public) can still be easily traced, and with its magnificent avenue of tall trees on each side forms what is known as the "Kirk-brae," one of the most charming and admired pieces of scenery in all Midlothian. Some of the old funeral galls are still in existence, of rich, heavy black velvet with woollen fringes, often referred to in the session-records as "mort-cloths,"—used to cover the coffin, which was carried to the grave in any sort of conveyance.

Beginning with the tombstones at the east corner of the churchyard, beside the present grave-digger's tool-house, there is a group of monuments to the Watsons of Crosslea which is worthy of notice, the most interesting of them (fig. 1) to "George Watson, son of Robert Watson tenant in Westhouses, who died 20th January 1708, aged twenty-two years." The usual skull and cross-bones adorn the memorial and the inscription "memento mori"; but in addition there is a reclining figure of a youth reading a book, evidently referring to the studious habits of this young man cut off in his prime. Another (fig. 2) of date 1734, has hour-glass, cross spades and bones and skull; while the stone, dated 1623, with the initials "T.W. : M.P. R.W. : D.M." is similarly adorned.

A little further up the same eastern wall there are several monuments with the inevitable pillars and cross-bones, followed by a curious rude stone, with the earliest date of all in the churchyard, which bears the inscription,—“Here lyes John Duncan weaver in Newbattle who departed this life in 1607 aged 82,”—with the letters "T.B x I.D." and the weaver's shuttle and stretchers (fig. 3). Beside it is a stone (fig. 4) with

¹ See the description of the communion cups in the *Proceedings*, vol. xx. p. 425.



Fig. 2.



Fig. 1.

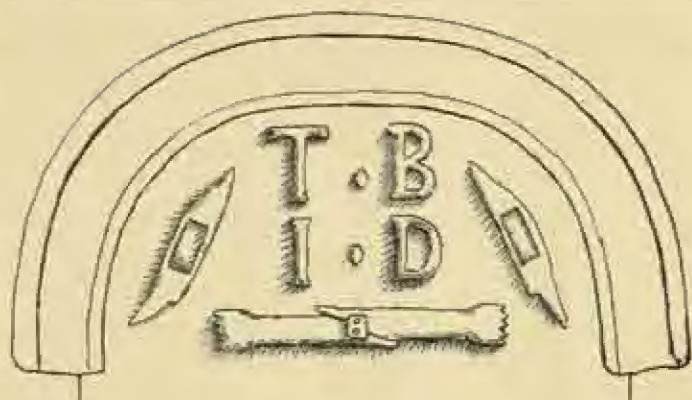


Fig. 3.

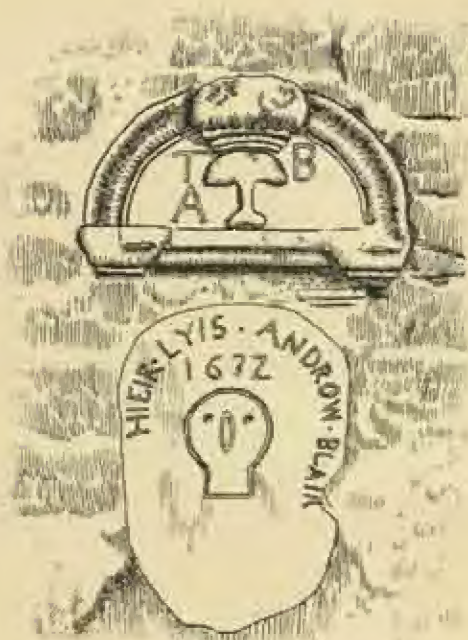


Fig. 4.

a face very rudely carved,—little else than a face-curve and holes and eyes and the inscription,—“Here lyis Andrew Blair 1632.”

On the upper part of the east wall there is a pillared monument (fig. 5)



Fig. 5.

with skull above and the letters “T.C : E.W.” and the inscription,—
“Here lyeth James Chirnside sone to Jas. Chirnside Bailie in Newbatell
who departed this life the 4th Nov. 1682 of age 12 years.”

On this Chirnayde tomb there is a verse of reflection :—

"In this frail life how soon cut of are wee
All that on earth do live must surely die.
Mount up O soul to that seraphick sphere
Eternal life if thou woldst have a share,
Sure God doth for the blisid it prepare,
Celestial joy that can compare with the
Here nothing is but grief and vanitie,
Invidious death that could not hurt the soule
Ripened for glory though the grave did moule
Nature and strength, yea youth thou soon can kill
So here thou did accomplish divine will,
Yet where are now thy furious darts, thy sting,—
Death cannot stop the soul from taking wing
Eternally with God above to sing."

Elaborate scrolls flank this youth's monument, and cross-swords, cross-bones and an hour-glass occupy a panel at the foot.

On the south wall is a rather stately pillared monument of seventeenth century date, with an effective diamond ornament along the base and the inscription—

"Heir godliness with vertue in one tombe
Mare and Martha are interred in this tombe,"

referring either to two sisters or one excellent woman who combined the virtues of both the sisters of Bethany.

A pillared square monument comes next it, with the inscription "1629 TH x HL." Beside it, wreathed in summer with the sweetest of "Gloire-de-Dijon" roses, is the grave of John William Turner, first professor of Surgery in Edinburgh University, who died in 1835, and of his relative Dr Aitchison, whose researches in Afghanistan thirty years ago rendered him famous, his fine botanical and zoological collections having their home in the South Kensington Museum.

The old escutcheoned stone next it (fig. 6) is remarkably interesting for its carving and symbolism—a child's tomb of 260 years ago. Above is an elaborate coat of arms, surmounted by a man with a club, while the sentences and symbols of death are carefully worked out, including "hodie mihi, cras tibi," "memento mori," and skull, hour-glass, cross-

bones, etc. On the top of the pillars there is a human head, an axe on one side, and a skull on the other. The inscription reads—"Here lyeth Frances Murray, one of the House of Black Baronnie who deceast the 14th Feb. 1641 æt. suæ 8." She was the child of Sir Archibald Murray of Blackbarony in Peeblesshire—a progenitor of Lord Elibank. Andrew



Fig. 9.

Murray of Blackbarony appears in charters in 1552, and his ancestors had been seated at Blackbarony for five generations previously. His son Sir John Murray was brother of Sir Gideon Murray, Lord High Treasurer of Scotland and a Lord of Session (father of Patrick, first Lord Elibank) and of Sir William Murray of Clermont, Fife. Sir John Murray's son and heir, Archibald Murray of Blackbarony, was made a baronet of Nova

Scotia in 1628, in James VI.'s reign. He married a daughter of Dundas of Arniston, and this child of eight was buried in Newbattle churchyard owing to her maternal connection with the parish, which includes a considerable portion of the Arniston estate.

A curious flat-faced obelisk built into the wall records a life spent amid a sea of troubles:—

"Anne nixor Samuel Elliot, obiit Sept. 20th 1772 æt. 73.

Afflictions sore
Long time I bore
Much tears I spent in vain
Till God did please
By death to ease
And ridd me of my pain.

Here lyes the remains of Samuel Elliot, Sergt who died Nov. 14 1777 aged 90 years: also Anne second wife of Samuel Elliot who died April 14 1786 aged 60 years."

The most interesting historical monument in Newbattle churchyard is unfortunately also the most scanty and diminished. It is to the memory of the Rev. William Creech, the father of William Creech, Provost of Edinburgh, the great bookseller, who was one of the best of Robert Burns' friends, and who himself published the Ayrshire ploughman's second edition of "Songs and Poems." The only memorial left is a portion of a stone built into the southern wall, surmounted by a flower-ornament, and an open book on which is inscribed the text from Job xix. 25, with the inscription—"M.S.D. Galielmi Creech ecclesiae apud Newbattle fidelissimi . . . pietate, prudentia, mo——hominum or——" The stone is almost entirely broken, and the small remaining fragment has been in recent years built into the churchyard wall. The Rev. William Creech entered the incumbency in 1739, succeeding the Rev. Andrew Mitchell, and died 21st August 1745, the year of the battle of Prestonpans. A new stone has just been erected to the memory of father and son, and a memorial brass placed in the church.

One of the finest, probably the finest of all the monuments is associated with the name of Welsh,—connected both with John Knox the Reformer

and also with Thomas Carlyle. It is in the south-east corner of the churchyard, and is an elaborate table with ornamentation of bones and skulls and faces. The monument (fig. 7), from an architectural point of view, is a very interesting one, and was an object of much interest to the late Marquess of Lothian. From the 4 mark, shown in fig. 7, the monument is probably to a merchant, but the inscription is illegible.

Of the other monuments little need be said. That on the south wall, next Creech's tomb, of date 1634, with its skull and cross-bones to "Charles Campbell of Newbottle": the Aitchison monument, recently



Fig. 7.

restored, of date 1728, with the usual insignia, are interesting: the Thomson tomb (1739), with the same insignia and scroll commemorating "John Thomson portioner in Newbottle 1739": that to Nicoll Simpson, 1662, beside it—all these have their family interest, but little beyond it.

In the centre of the churchyard there are several old stones to miners, weavers, etc. A spirit of economy seems to have taken hold of two colliers of Langlaw in the parish, for one family takes one side of the stone and the other the reverse. "Here lyeth Robert Allan son to John Allan Coalzier at Longlaw died Nov. 29th 1752. 'Jesus said, 'suffer little children to come unto me, for of such is the kingdom

of heaven."³ On the other side (fig. 8)—"Here lyeth William Douglas Coalzier at Longlau, husband to Margaret Patterson and two children who died 1741." The insignia of the pick, mash and wedge are over both inscriptions. Another monument is to "Jenot Bomkyll spouse of Robert Graham, weaver in Eathouses who lived together 57 years

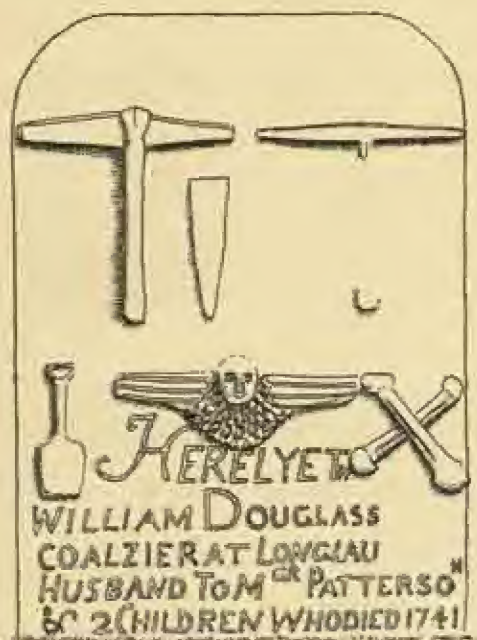


Fig. 8.

and departed 23rd June 1798 aged 77." The Crooke's monument of 1663 is also interesting.

The stone of a smith (fig. 9) 1741, is remarkable for the high relief of the carving. The crowned hammer is flanked by two human heads with curly hair, and by two hour-glasses, and skulls surmount the pillars at the sides.

The similitude of the insignia on the 17th and 18th century stones makes it unnecessary to pursue the subject further—some



Fig. 2.

having the crown and hammer, others the emblems of a weaver's, a brewer's, a farmer's or a miner's life, while most have only the symbols of our frail mortality.

IV.

EXCAVATION OF CASTLECARY FORT ON THE ANTONINE VALLUM.

PART I.—HISTORY AND GENERAL DESCRIPTION.

By D. CHRISTISON, SECRETARY.

The attention of the Society having been called to the risk of public works being erected close to Castlecary Fort, the Council resolved that, in continuance of their investigations of Roman sites, the next work to be undertaken should be there. Permission to excavate having been freely granted by Lord Zetland, the proprietor of the ground, and every facility given by Mr Charles Brown, the factor, the direction of the work was committed to Mr J. H. Cunningham, C.E., and Mr Thomas Ross, architect. Mr Mungo Buchanan again volunteered to fill the arduous post of surveyor; and with Mr Alexander Mackie as clerk of works, an efficient staff was made up, every member having had a large experience in conducting operations of the kind. As previously, not more than two or three workmen were usually employed at a time, in order to ensure a strict supervision of the output. Ground was broken early in March 1902, and the work proceeded, with but little interruption from bad weather, till the following November.

Position of the Fort.—The Roman fort of Castlecary, so named, perhaps, from the ancient keep of Castlecary near it, is situated about six miles west of Falkirk. Remains of eight forts on the line of the Antonine Vallum still exist to the west of it, and of only one to the east. But filling in the blanks supposed to have been caused by the total disappearance of the others, necessary to complete the chain, Castlecary would originally be the twelfth from the west and the eighth from the east, according to Stuart's chart in *Caledonia Romana*.

The position has considerable natural strength, and is thus described by Mr Buchanan, who has also drawn up the accompanying map, fig. 1, to illustrate it. The fort stands upon a rounded knoll, which is the highest part and the western end of a low ridge, rising slightly above

MAP OF THE COUNTRY ABOUT THE
FORT AT CASTLEGARY.
SHOWING THE CONNECTION OF THE
ANTONINE VALLUM, AND THE
MILITARY WAYS.

MODERN WORK OMITTED

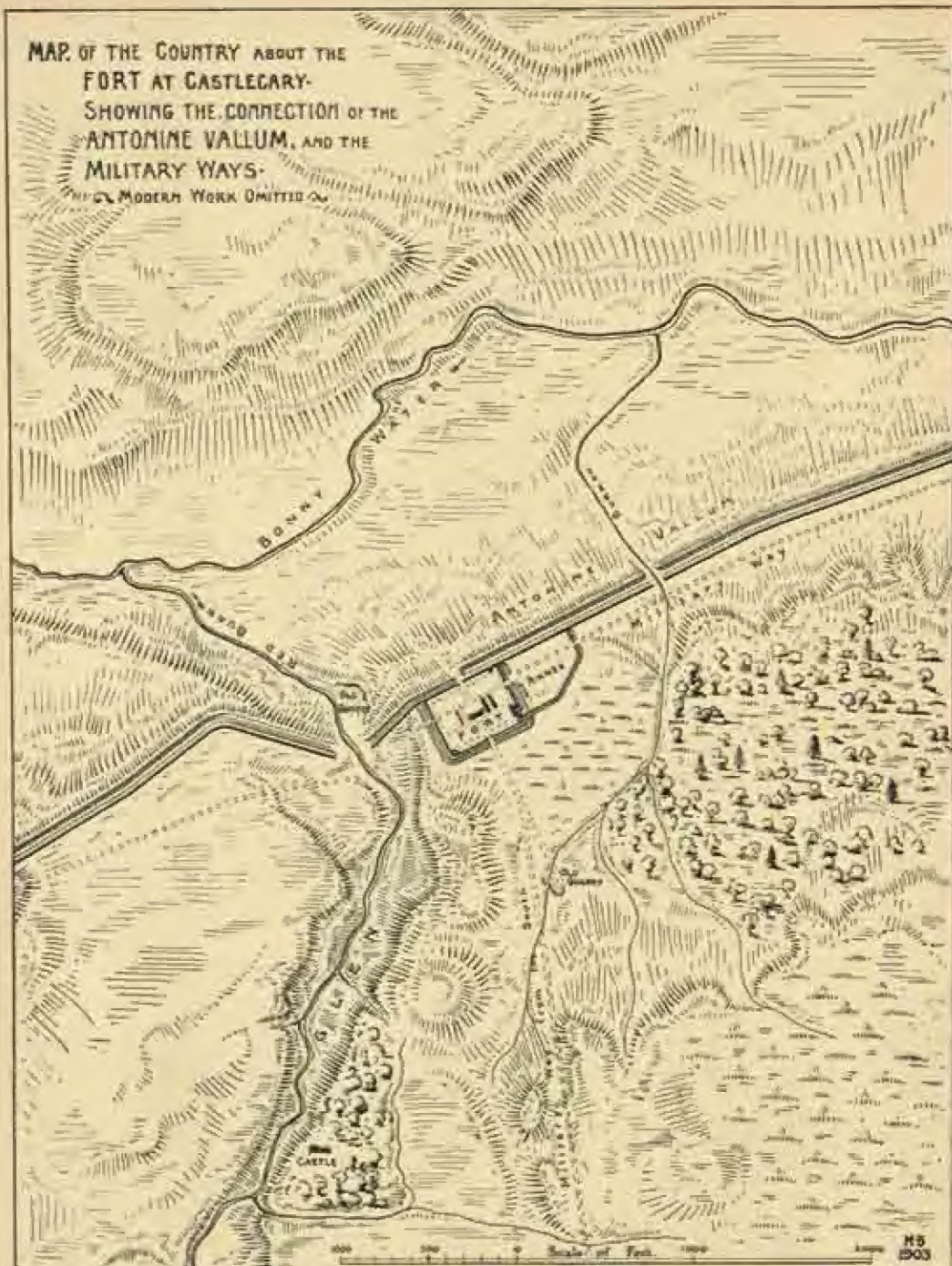


Fig. 1.

the 200 contour line. The centre of the fort is 227 feet above the sea, and the ground falls away in all directions. On the east, or along the ridge, the depression is very gradual and uniform, but on the west it is rapid to a deep ravine through which the Red Burn has its outlet from the Glen. On the north, a low-lying valley stretches out, along which the Bonny Water winds, at a distance from the fort of about 400 yards, and at a lower level by nearly 100 feet. On the south the slope terminates about 100 yards from the fort in what has formerly been a morass enveloping nearly the whole of the southern front.

FORMER NOTICES OF THE FORTIFICATIONS.

The earliest notice of Castlecary is probably in an anonymous letter of 1697, describing an excursion to the west of Edinburgh (*Historical MSS. Commission*, xiii. App. ii., Portland MS. ii. 56), but the author tells us nothing more than that the fort is a large castellum of hewn masonry, containing many stone buildings.

Sir Robert Sibbald (*Historical Inquiries*, 1707, 30) is even more curt, being content with calling Castlecary "a great fort with much building."

Pennant, Pococke, Stukely, Clerk of Eldin, and Camden do not mention it at all.

Alexander Gordon (*Itinerarium Septentrionale*, 1726) calls it a magnificent fort "which seems to have been surrounded with a wall of hewn freestone, whose vestiges still appear." "On the south end of this wall are triple ditches and four rows of ramparts." His plan, however (fig. 2, reproduced here on a smaller scale from his Plate xxiv.), gives only two ditches and three ramparts on that side, as well as on the east and west. The defence on the north side is the only one represented as of stone, and is figured as a single wall, separated from the Antonine Vallum by a few yards' interval. The only entrance shown is from the south.

Horsley (*Britannia Romana*, 1732, p. 170), who explored the Antonine Wall not long after Gordon, tells us that the Vallum as usual formed the north rampart of the fort, that the other three sides

had a triple rampart and ditch, and that the ramparts have been built of stone and mortar. His only other observation is that the fort seems to have been well supplied with water. His small plan (reproduced in fig. 3) agrees with the description, and shows two entrances, one on the

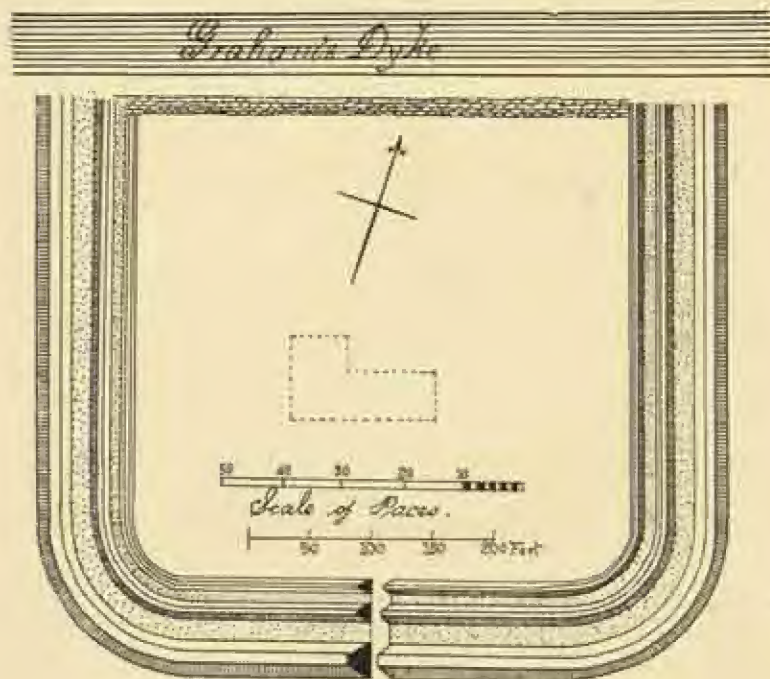


Fig. 2. Gordon's Plan of Castleary Fort.

east, the other on the south. His chart of the Vallum shows, emerging from the north side of the fort to join the Bonny Water, a streamlet, of which there is now no trace.

Maitland (*The History and Antiquities of Scotland*, 1757, i. 173) follows at no long interval. He gives the fort triple ramparts and ditches on the south side, and says that no doubt they existed formerly

on the east and west sides also. He does not seem to have seen any stone wall, as he says that the innermost rampart *is said* to have been faced with stone walls "of a height not mentioned, but," as he rather obscurely remarks, "I take them to have been about four feet high and three feet thick, like that facing the lower part of the northern side of the wall adjoining the ditch, out of which the last time I was there they were digging stones to erect out-houses at the mansion-house of

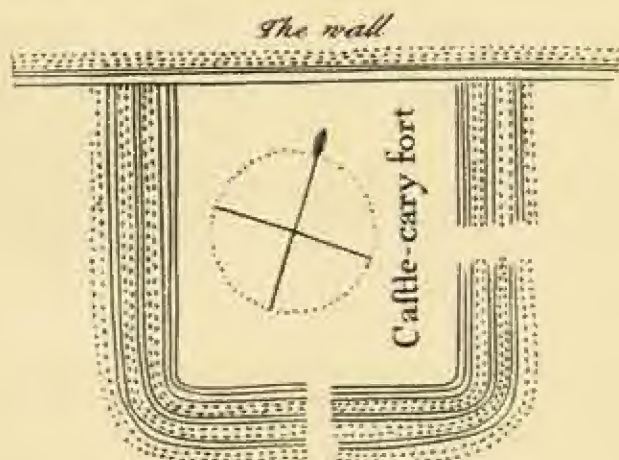


Fig. 2. Horsley's Plan of Castle-cary Fort.

Castle-cary. This wall was of rough ashlar, consisting of large freestones laid in clay running along the face of the rampart as a security to the foundation."

Roy (*The Military Antiquities of the Romans in North Britain*, p. 123) only tells us that Castle-cary "has been one of the principal stations on the Wall of Antonine, as is evident from its dimensions, and the number of antiquities found, and finding there every day." His plan (fig. 4, on a reduced scale) gives the Wall of Antonine as the northern defence, directly up to which run the east and west ramparts and ditches. On these sides, as well as on the south, there are two

ramparts and two trenches. On the east side the outer rampart is less distinct. "Walls," at the south-east angle, is the name of a cottage that stood there at the time. Roy does not specially describe the ramparts, but elsewhere states generally that although the forts on the Vallum were probably originally of earth, "the Romans, no doubt wishing to

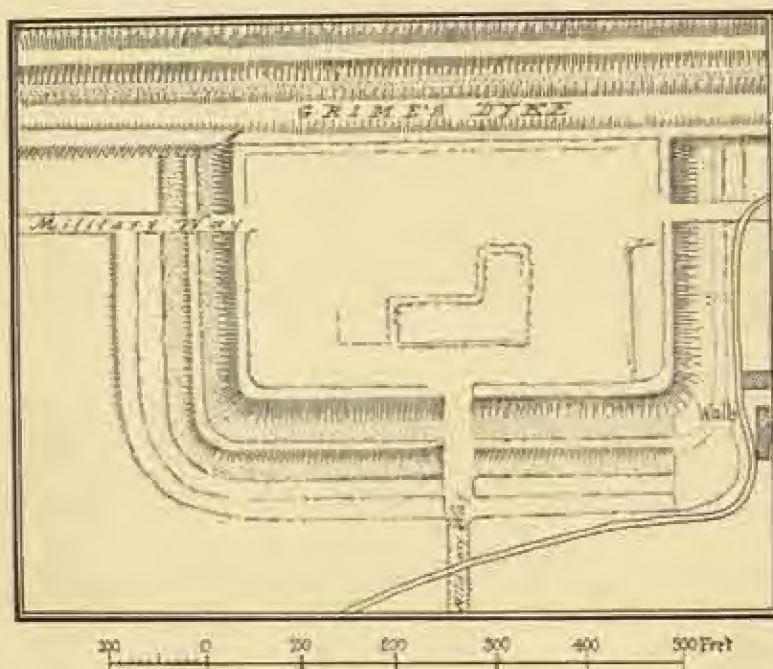


Fig. 4. Roy's Plan of Castlebury Fort.

render these points of apyay more respectable and permanent, appear at some future period to have almost universally reveted them, or at least their inner ramparts, with stone."

The Rev. William Nimmo (*History of Stirlingshire, 1777*) says that the fort "is surrounded with a wall of stone and mortar"; also that "the outer wall hath been surrounded with a double ditch or vallum

still filled with water on the south side, where the entry hath been by a large causeway intersecting the ditch." He gives a very small, meagre plan, which is not the least like the place, and by no means tallies with his own description.

The *Old Statistical Account of Scotland*, 1797, merely says that the site is still to be seen, and the *New Account*, 1845, that it covers six acres, is vaulted underneath, and that "part of the foundation still continues."

Stuart (*Caledonia Romana*, 1852, p. 344) states that scarcely a vestige existed when he saw it, and attributes the destruction, first, to improvements of the highway; secondly, to the removal of stones in 1769, and again in 1771 during the construction of the Union Canal; and thirdly, to the operations of the North British Railway in 1841, whereby the line was carried on an embankment obliquely across it. His plan is taken from Roy.

GENERAL DESCRIPTION OF THE FORTIFICATIONS.

According to most of the early observers, the Antonine Vallum, modified perhaps to a certain degree, was the sole defence of the north side. Gordon alone represents a stone wall, in addition, close in rear of the Vallum. The other three sides are variously described as having two, three, or even four ramparts and ditches. All the accounts agree as to the remains of mortared walls of hewn masonry, but without any clear reference to their position. Our excavations, however, although confirmatory in a general way as to the north front, proved that the three free sides had but one rampart or wall, most probably a wall, and only two trenches, except for about half the length of the east side, where there were three.

Rampart or Wall.—Only one small stretch of masonry was found on the *enceinte* in which so much as three courses remained *in situ*; and as nearly the whole of the loose stones had been plundered, the means of determining whether the original structure was a wall proper, or a reveted earthen rampart, were very limited. On the whole, however,

the evidence in favour of the former view seems pretty conclusive, as regards the three free sides at least. In the first place, no trace of an earth backing was found; secondly, the close proximity of a building on the east side left no room for one; and thirdly, the fine quality of the masonry on the inner face, as well as the presence of an offset, are unnecessary in a revetment, and in fact are not met with in the revetment walls of the German *Kastelle*. The width of the wall above the plinths was six feet six inches; and as all the remaining loose stones were square-surfaced, there seems to have been no batter in the wall, so that there would be ample room at the top for the battlements and wall-walk.

The circumstances of the north wall are different. The fall here was so steep that the ground had been cut into a perpendicular face three feet high, so that the wall up to that height must have been a revetment. Was it carried up above this as a battlemented wall; or did it stop here; and was the rampart of the Vallum, with which it is strictly aligned, carried along its top to form the northern rampart of the fort?

The latter supposition seems unlikely, because no trace of the stone bottoming, invariably met with in sections of the Vallum rampart, was found, although the ground had been little disturbed, as was shown by the perfect preservation of a stone kerb running along six feet in rear of the wall. This kerb marks out, along with the outer face of the wall, a space of 14 feet wide, corresponding with the width of the rampart of the Vallum, but there is nothing to explain its object. Possibly it marked a space six feet wide, between itself and the stone wall, within which some construction was made for reaching the top of the wall.

The Angles.—The south angles were no doubt both rounded, but only the south-west one was proved to be so, as the other was covered by the railway embankment. The north angles could not be completely examined, but were traced so near their junction with the Vallum as to show that they were not rounded.

Angle Tower.—Within the south-west angle, the foundations of the first Roman wall-tower met with in Scotland still remained, and no doubt the south-east angle, now concealed under the railway embankment, was provided with one also. Three sides were left, and they were straight and right-angled. The fourth, which had been on the curve of the wall, had been entirely removed.

Some special defence must have been provided also at the north angles to hinder an enemy from running along the wall from the Vallum and jumping into the fort; and a widening of the stone foundation layer from the ordinary width of 8 feet to 11 feet, for a length of 45 feet, indicates some special construction for the purpose. As the foundation course of the fort wall, although in strict alignment with the foundation stone layer of the Vallum, was three feet higher, the supposed defence would have all the greater command over the approach from the latter.

Entrances.—From one to three entrances were noticed by the early writers, but the real number proved to be four. Those in the north and south sides are central, but the other two are considerably nearer the front or north than the rear. Three of them were sufficiently preserved to show that the almost invariable mode of defending the entrances of Roman stone forts by square towers was not used at Castlecairy. Instead, the gateways, which were single and only 10 feet wide, were flanked by returns inward of the wall, forming a passage 14 feet in length. As these returns were 8 feet thick at the base, the walls would be strong enough to carry an archway over the passage, with some tower, or other superstructure, over the gate for its defence.

Trenches.—The two trenches on the three free sides of the fort were each 14 feet wide and 7 feet deep, and were separated by a level space or platform 10 feet wide, amply sufficient as a line of defence; but no evidence of a breastwork or palisade could be found.

Berm.—A berm 5 feet wide separated the wall from the scarp of the

inner trench on the three free sides of the fort; but on the north side the berm had a width of 21 feet, or the same as that of the Vallum, with which it was continuous.

HISTORICAL DESCRIPTIONS OF THE INTERIOR.

The early authorities of 1697 and 1707 (*op. cit.*) only mention the ruins of many stone buildings in the interior, and Gordon (1727) merely says that "the place of the general's tent" with vestiges of other buildings were still visible. His plan (fig. 2) marks the "general's tent" as a rectangle, situated in the middle of the area with a rectangular projection northward at its west end. No other building is shown. Nimmo (1779) states that the whole area was full of ruined buildings, which raised the earth 8 or 10 feet above its natural surface, and gave the fort the resemblance of a hill-top, surrounded with a sunk fence, also that "the rubbish above the stones hath often been plowed except the middle, where it is overgrown with nut bushes and briars." He also mentions the discovery in 1770 by Sir Laurence Dundas, proprietor of the ground, "of sundry apartments built with stone and lime," conjectured to be a *balneum*, and gives a plan, which on a reduced scale agrees with the one in Roy.

Roy's plan of the fort (fig. 4) shows a foundation like that represented by Gordon, but with the projection at the opposite or east end, and another foundation in the south-east angle. At p. 161 this is said to have been cleared of rubbish in 1769, disclosing "a very elegant plan of a house, in the style of Palladio," with a sudarium (Pl. xxxix., reproduced here in fig. 5). The greater part of this building is now partly destroyed, partly covered by the railway embankment, but enough remained to prove the accuracy of the old plan.

The only additional information in Stuart, who reproduces from Roy the plan of the sudarium, is that more ruins of buildings were discovered in 1771.

Much was made by the early authors of the discovery of nearly 100 quarters of wheat, hard and black, mixed with charred wood, as a proof

that the fort had been stormed and burnt; but as the wheat lay in the hollow of a rock, outside the fort near the north-west angle, and north of the Vallum, its connection with the fort seems questionable.

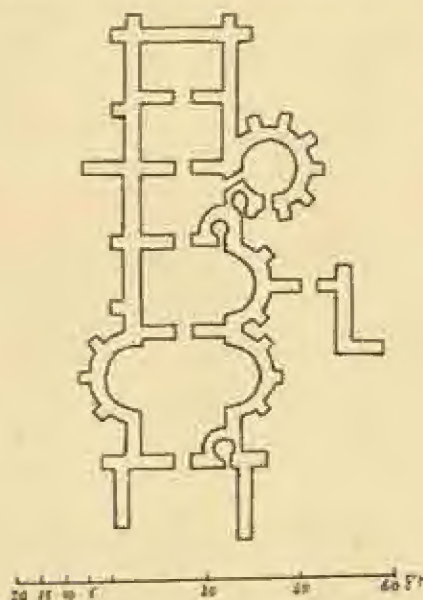


Fig. 5. Roy's Plan of Foundations of Buildings discovered at Castleary in 1769.

GENERAL DESCRIPTION OF THE INTERIOR AFTER EXCAVATION IN 1902.

Unfortunately a large part of the area is covered by the railway embankment, which, entering at the south-east angle, passes obliquely across the fort and emerges on the south side of the west entrance. The results of the excavations in the accessible parts, however, showed that the general plan of the interior closely corresponded with that of all the Roman forts hitherto investigated in Scotland.

The *Via Principalis* is much nearer the Pretorian than the Decuman gate, its centre being 115 feet from the *Porta Pretoria* and 230 from the

Porta Decumana.¹ It is therefore nearer the front than the rear by one-third. Again, in agreement with the other Roman forts in Scotland, the Pretorium is in rear of the *Via Principalis*, and it so happens that it is exactly in the centre of the area. As usual, also, in Scottish Roman forts, the space on either side of the Pretorium has been occupied by long, narrow buildings, running parallel with it. The only exceptional characteristic at Castlecary is that the *Portæ Pretoriæ* and *Decumanæ* are on the long instead of the short sides of the fort, the object perhaps being to show as wide a front as possible in the only direction from which attack was much to be dreaded.

The other important structures discovered were an interesting buttressed building, with apertures, splayed inwards, between the buttresses; the part of the building with the bath that still remained uncovered by the railway embankment; and near the south-west corner of the fort, a well-preserved latrine. No well was discovered. Probably it was under the embankment, but the provision for drainage and for flushing the latrine indicates an ample water supply, and Horsley's map shows a streamlet actually taking its origin in the fort. A deep pit, at first taken for the well, seemed to be for refuse, and was conveniently placed behind the Pretorium, where three streets met.

THE ANNEX.

The existence of an annex at Castlecary was quite unsuspected until it was revealed by our excavations. It lies on the east of the fort, and is pentagonal. The northern face is formed by the Vallum, the western by the east side of the fort. These two faces were therefore strongly protected, but the rather short east end and the south side (the western part of which looks south, the eastern south-east) had been defended merely by an earthen rampart on a stone foundation about 8 feet wide, and a trench 14 feet wide and 7 feet deep. It was unfortunate that

¹ We have accepted for convenience the nomenclature of the parts long in use, although it is now doubtful how far the correspondence between the interiors of the forts and temporary camps was carried, and in particular whether the central building in the forts corresponded with the Pretorium of the camps.

for farming reasons the area of the annex could not be excavated. There was no evidence of buildings on the surface, but interesting remains might have been found, in confirmation of Stuart's statement that "so many foundations have been discovered in the neighbourhood (of the fort) that a Roman colony must have stood here under the protection of the fort."

COMPARISON WITH OTHER ROMAN FORTS, AND PROBABLE DATE.

One of the most interesting questions on which we hoped that our excavation would throw some light, was whether any evidence could be obtained of the presence of Agricola at Castlecary. Inscribed stones had long ago proved the occupation of the place considerably after his time; and although we could hardly expect to find inscriptions to Agricola, as none such have been found in Britain, notwithstanding the prominent part he played in it for seven years, it was possible that we might at least find some proof of an earlier occupation.

The mere fact that Castlecary appears to have been a stone fort does not necessarily exclude the possibility of its having been constructed by Agricola, as the transition from earth to stone in Roman forts appears to have begun about his time. The period over which this transition lasted is not yet thoroughly worked out, but it appears to have occupied a considerable time, and not to have taken place simultaneously throughout the Empire.

Recent excavations at Haltern in Westphalia show that no stone was used in the extensive Roman works there, which it has been ascertained subsisted only between 11 A.D. and 16 A.D. There the ramparts uniformly consisted of earth upheld between two rows of wooden posts.¹ On the German Limes, only three *Erdkastelle* have been discovered, one (Waldmössingen) beneath a stone fort, another (Hofheim) close to one,

¹ *Atlas. Führer durch die Römischen Ausgrabungen bei Haltern*, Dr. Carl Schuchhardt, 1903.

A similar rampart defended *Gellipager*, an early Roman fort believed to date circa A.D. 75, recently excavated in Wales, except that the earth was upheld by stone walls instead of palisades. *Gellipager*, J. Ward, 1903.

and the third (Heldenbergen) within an *Erdlager*. Hofheim is stated to date from the first half of the first century, the other two from near the end of that century. Heldenbergen is rectangular, but Hofheim is irregularly nine-sided, and Waldmössingen irregularly hexagonal, and these two *Erdkastele* do not seem to differ essentially from the *Erdlager* of Heldenbergen. All of these works seem to have been fortified merely by a single trench and palisaded rampart, and no postholes were discovered. It is remarkable that so few earth castles have been met with on the Limes, and that their plan is so irregular, and so ill adapted for the orderly arrangement which we have been accustomed to consider as essential in a Roman camp or fort.

Very different is the character of the earthen forts in Britain, and the transition there seems to have been from stone to earth rather than from earth to stone. Not only did the stone wall of Hadrian precede the turf Vallum of Antonine, but as far as the evidence goes it seems to have also preceded the nine forts excavated or being excavated in Scotland, all of which prove to have been earthworks, with the single exception of Castlecary. In their complex designs and invariable rectangular plan¹ the Roman earth forts in Scotland contrast strongly with the very primitive defences of the Continental works. This points to a later date, which is also indicated by their following the Hyginian and not the Polybian arrangement of the interior, unlike some even of the earlier stone *Kastele*. This is true of the stone Castlecary as well as of the earthen forts, the sole exceptional detail being that the *Portæ Principales* are in the short instead of the long sides at Castlecary, the object perhaps having been to turn the long side to the direction from which attack was alone likely to take place. As far as structure goes, therefore, Castlecary appears to be of about the same period as the earth

¹ There is one reputed polygonal Roman camp in Scotland, Raedykes in Kincardineshire, which has ten very unequal sides. It measures on Roy's plan 2300 by 1200 feet, is fortified by a slight rampart and trench, and has six entrances, provided with detached straight traverses in front of them. The site is very rough with rocks and loose stones, and is overgrown with whins. As far as is known it has never been excavated, and no finds have been recorded from it.

forts, one of which, Birrens, we know to have been repaired, if not originally built, in A.D. 151. The inscribed stones and coins found at Castlecary also agree in period with those of the forts. But a still closer estimate of the age of Castlecary may be arrived at: when we consider the regular manner in which the fort joins on to the Antonine Vallum, and that the angles at the junction are square, whereas the free angles are rounded, it seems fair to conclude that the fort, as we now find it, did not precede the Vallum, but would be probably of about the same date, or *circa* A.D. 142.

We must now inquire whether any structural evidence of a previous occupation was found. Nothing of the kind was met with in the fortifications, but Mr Buchanan draws attention to the inferior quality of the masonry, and to other characteristics which differentiate the western from the eastern of the two chambers into which the "Pretorium" is divided. However this may have happened, it seems unlikely that the original design did not include both chambers, as with them the building is exactly central, and the whole symmetry of the interior would be thrown out if the east chamber stood alone.

One difference between Castlecary and the earthen forts remains to be noticed. According to the generally received opinions of Roman castramentation—although it is perhaps too much taken for granted that the arrangements in the forts follow those of the camps—the side opposite the Pretorium should always represent the front and be turned towards the foe. Now Castlecary obeys this law, but the independent earthen forts do not, as they face to the rear, at least on the ordinary supposition that they were constructed by an invading and not a retreating force.¹

¹ The same apparent abnormality occurs, according to Professor Naegle, at Waldmössingen and several other *Kastelle* of the German Limes, and it seems to require investigation whether such cases should be considered as belonging to a distinct class in which the *Decumana* becomes the front, or whether they are due to some exceptional cause, such as the nature of the ground. The evidence in Scotland is contradictory. The nature of the ground might explain why Ardoch and Lyne faced south, but the similar conditions of the ground at Birrens would lead us to expect it to face north instead of south as it does.

PART II.—DESCRIPTION OF THE PLANS. BY MUNGO BUCHANAN,
CORR. MEM. S.A. SCOT.

It will be seen by reference to the accompanying plan (Plate I.) that the work consists of two parts. The fort itself occupies the higher site; the other part at a lower level is an annex, joining the former on the east.

The plan of the fort is an oblong, having its greater length from east to west.

It has been entirely surrounded by a strongly built stone wall, pierced in each side by a gateway of special construction.

The measurement taken between the inner faces of the opposite walls is from east to west 455 feet, and from north to south 350 feet, giving an enclosed area of fully $3\frac{1}{2}$ acres.

Outside the wall on the north it is defended by the fosses of the Antonine Vallum, and the other three sides, viz., the south, east, and west, are surrounded by two lines of trenches, which run parallel to the walls.

The plan of the annex is an irregular pentagon. On the west it is bounded by the east side of the fort, and on the north by the Antonine Vallum. On the other three free sides the defences consist of an earthen rampart and an accompanying trench.

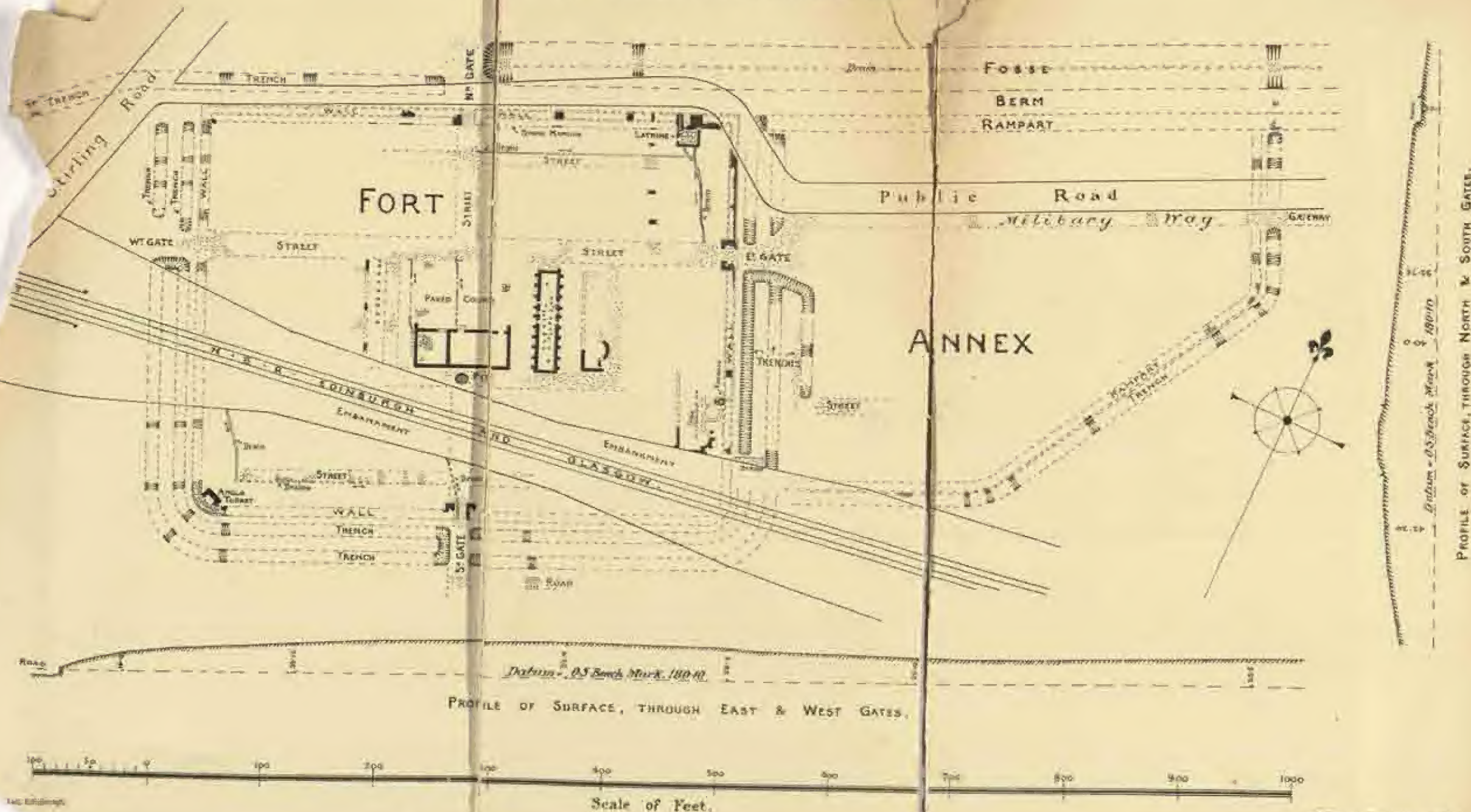
The south defences leave the fort at right angles to it and continue for a distance of over 200 feet in that direction, then quickly bending with a curve inwards form an angle with the previous portions of about 36° . Continuing at this inclination for about 300 feet farther, they meet and join with a rounded corner the defences of the east side.

The defences on the east are 150 feet in length, their northern termination being the Antonine Vallum, and in the centre of the stretch is the gateway through which the military way passes.

The internal measurement, taken between walls, is from east to west 450 feet, from north to south where it is widest 310 feet, and where narrowest 150 feet, the area enclosed being fully $2\frac{3}{4}$ acres, which includes

PLAN OF THE ROMAN FORT ON THE ANTONINE VALLUM AT CASTLECARY, STIRLINGSHIRE. 1902

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the trenches on the east of the fort. These latter take up about half an acre; so that the available area enclosed being reduced by that amount, makes the combined areas of fort and annex about 6 acres.

In the following description the various subjects are treated separately.

ANTONINE VALLUM.

The Vallum (Plate I.) is the northern defence of both fort and annex.

The rampart in the vicinity of the fort is $14\frac{1}{2}$ feet wide over the stone foundation. Of its superstructure nothing remains; it is all reduced to a uniform level with the surface of the field through which it has passed.

The berm is 31 feet in width, and the fosse is about 40 feet in width and 10 feet deep.

In all excavations of the fosse, the lower part for a depth of about 3 feet was found to be a mass of decomposed vegetable matter freely mixed with soil, presenting a dark peaty appearance, and of the consistency of stiff clay. Lying on this, there is a stone-built drain about a foot square internally, most of the stones used in its formation being similar in size and workmanship to those still to be seen in the buildings of the fort. It is constructed after the same manner as the large drains of the fort, the bottom and top being of flat narrow stones, the sides mostly square-dressed stones. On both sides of the drain, and overtopping it fully one foot, is a wedge-shaped pile of rough stones. They were, however, more or less separated and mixed with the soil, so that the whole did not remain in position when the adjoining soil was removed from the sides. The drain runs towards the east, the fall being the same as that of the bottom of the fosse, and its outlet may have discharged into the small burn 200 yards beyond the annex. (See Map, fig. 1.)

Hitherto it has been generally accepted that the fosse of the Vallum continues without variation in front of the forts on the line. But the portion of it under consideration proves to be a decided deviation from this system, by reason of the manner in which the fosse ends and changes its character at the north entrance.

No defence other than the Vallum has been adopted along the north front of the annex. The rampart of the Vallum has thus extended westwards until at a somewhat lower level it abutted against the wall of the fort at its north-east corner, both being in alignment, as evidenced by the remaining foundation. The berm and fosse are continued till they meet the roadway that passes out of the north gate. Here the berm joins the roadway by both surfaces coinciding; but as the roadway is carried farther north, and beyond the fosse, it has caused the termination of the latter at this position (Plate I.).

The fosse on the opposite side of the roadway is not continued in the normal manner, but instead, a trench, only 15 feet in width, set back a distance of about 27 feet from the outer edge of the fosse, and thus much closer to the wall of the fort, is carried along the remaining distance till it reaches the burn on the west. Shortly after passing the north-west corner of the fort it takes a bend southward, giving it an inclination up-stream. Of the rampart necessarily accompanying this trench where it extends beyond the fort, no remains exist, nor indeed were such to be expected, because of the altered surroundings.

The alteration and setting back of the trench above described leaves a large open space in front of the gate, with a surface of hard compacted gravel, seldom more than 9 inches below the present surface of the ground. Only for a short distance under the line of roadway issuing from the gate were traces of a stone bottoming observed. The ground all around declines quickly to the valley, and a careful search failed to discover any indications of a traverse or defence to the entrance.

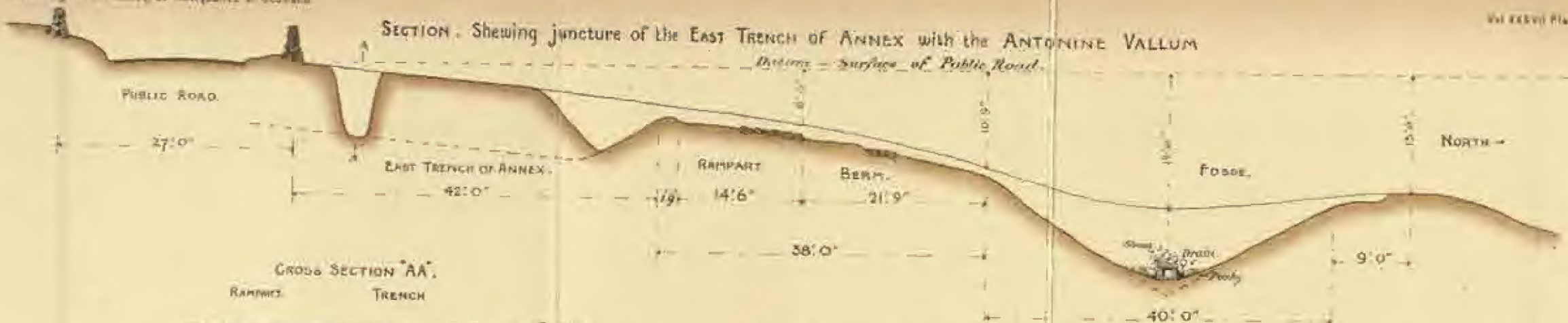
WALLS OF THE FORT.

From the existing remains of the wall, which rarely rise above the first course, it would appear to have entirely surrounded the fort.

The lower part is a bottoming 9 feet wide, composed principally of boulders, averaging in size about 9 inches by 6 inches. These are placed close together, bedded with clay, and are sunk into the ground for at least 9 inches. The top is comparatively flat and coincides with the

SECTION. Shewing juncture of the East Trench of ANNEX with the ANTONINE VALLUM

Distance - Surface of Public Road.

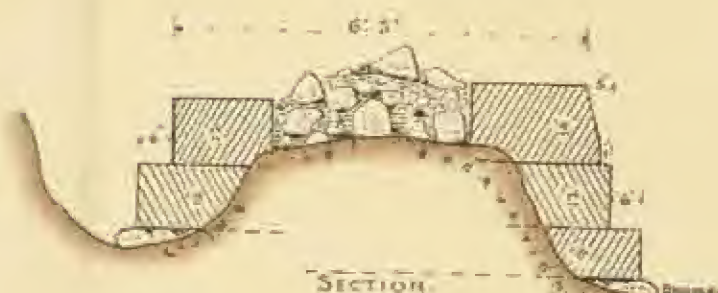


CROSS SECTION "AA".

RAMPART.

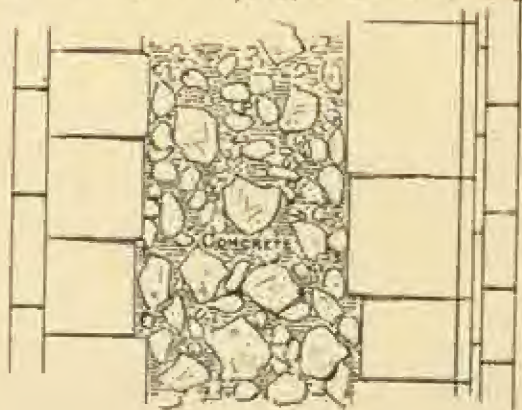
TRENCH

8' 0" + 5' 6" + 14' 0"
EXISTING PORTION OF EAST WALL.



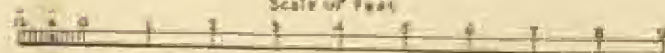
SECTION.

7' 10"



PLAN.

Scale of Feet



Nº1

Scale of Feet

Difference of Level at East & West Ends.

DATUM

NORTH GATE

Nº2.

DATUM

Surface of Foundation

FORMATION OF WALL

SECTION - 30 FT. EAST OF NORTH GATE

Nº3.

DATUM

Nº4.

DATUM

SECTION - 50 FT. WEST OF NORTH GATE

SECTION THROUGH NORTH GATE & FOSSE OF VALLUM.

SECTIONS - NORTH DEFENCE, CASTLEGARY FORT.

Nº5.

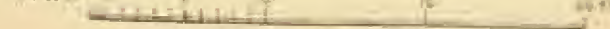
DATUM LINE

Surface

North

SECTION - Showing formation under ground of West Wall, at West Gate, - Outer Face.

Scale of Feet





original surface level of the ground. Where the latter is of a sloping nature, the bottoming is made stepped—evidently for the purpose of avoiding excessive cutting—yet sufficient to maintain the footing level.

On top of the bottoming the foundation course of the wall proper is laid, in width 8 feet. The foundation course—particularly of the north wall—is composed of exceptionally large stones, a not uncommon size being 5 feet by 2 feet by 15 inches, calculated to be upwards of 15 cwt. in weight. On the outer face of this course, a margin 9 inches wide is formed along the whole front, by the surface of the inner stonework being recessed an inch below that of the margin. This recessed surface forms a channel into which the course above it is placed, and by this means the wall gains in stability, as the check at front acts as a preventive to its being forced outwards by possible pressure from behind. (See Section No. 2, Plate II.)

In the upper courses this has not been repeated, nor is it anywhere applied to the stonework of the inner face of the wall. Indeed, the system of a rebated course was only distinctly observed in connection with the north wall, where, by reason of the entire absence of the upper stonework, it was exposed to view on the removal of the overlying soil.

The lower course of stonework of the wall is built solid its whole width of 8 feet, but the upper courses are only a lining on the outer and inner faces, the interior being a solid block of concrete composed of sandstone chips and rough boulders of various sizes, all run together with lime. As the inner jointing of the stone facings is left wide, the lime would penetrate into them, and thus make the whole structure a solid mass. On the outer face, where the joints are much closer, the presence of lime could not be detected. (See existing portion of East Wall, Plate II.)

By reason of the outer and inner scarcements, and a bevelled plinth course at the front, the wall at the upspringing is reduced to a width of 6 feet 6 inches, and this apparently indicates the actual size of the wall proper in its upper structure, which it is conjectured may have

been vertical, for the reason that among the debris, where worked stones were plentiful, no stone was found with any indication of batter on it.

The base of the north wall has formed a revetment to the ground behind it, the sloping ground having been cut into to allow of the foundation being level throughout. There is a difference of 3 feet in height from the bottom of the foundation to the natural surface of the ground internally, beyond which the soil remains undisturbed and in its natural condition.



Fig. 6. Inner Stone Kerb; North Wall.

On this inner surface, fully 6 feet from the back of the wall, is a stone kerb running parallel with it. The stones which form it average 12 inches long by 6 inches deep (fig. 6).

The Kerb, it will be observed, is over 14 feet from the outer edge of the foundation. As the outer stone margin of the Antonine rampart and the outer face of the fort wall are in alignment, and as the width of the rampart agrees with that of the wall of the fort, plus the space between it and the stone kerb, it follows that the latter is in alignment with the inner margin of the Antonine rampart, and the only difference is in level, the fort kerb being the higher by at least 3 feet where they most nearly approach each other at the junction of the annex.

The inner stone kerb was nowhere traced in connection with any part of the wall other than on the north, where it was conspicuous in several places. Had it been carried round the other sides of the fort, possibly some evidence of it might have been obtained at the corners, where both foundation and surface maintain their relative levels on the same plane for a short distance; but no remains at any of these positions supplied the least evidence that the wall on the south, east, or west had a stone kerb behind it similar to that on the north.

The north wall presents the appearance of having been stepped at intervals along its course. Particularly is this evident in the west half beyond the gate. (Sections Nos. 1 to 4, Plate II.)

The eastern half up to and including the gate is practically of one level, whereas a little to the west of the gate the foundation and also the inner stone kerb—still continuing horizontal—are found to be lowered 2 feet 10 inches, while between this and the extreme west end there is a difference of level of about 10 feet, suggesting the probability of more stepping at intervals, to obviate what would otherwise be undue elevation at the north-west corner if the top of the wall had been kept at a uniform level.

At both ends of the north wall the foundation shows evidence of special construction. This is most distinct at the east, the west end having only a small portion remaining. As previously stated, its normal width is 8 feet, but at both ends it is increased in width. At the east end for a length of 45 feet it is increased to fully 11 feet, and is composed of very massive stones. These may be observed in the foreground of fig. 7. There are a few of the second course of stones still in position—a remaining piece of the inner face of the wall.

The recessed check in the foundation course is here very distinct, its continuous appearance clearly indicating the purpose for which it was intended.

What may have been the nature of the corner erections for which these solid and enlarged foundations were evidently constructed, as



Fig. 7. Latrine, looking south. Foundation of North Wall in foreground.

distinct from what is known of the main structure of the wall, can only now be a matter of conjecture, for the almost entire clearance of the soil from the position allowed no further evidence regarding it, with the exception that the angle of the interior in the corner enclosed by the wall appears to have been a stone paved surface, 2 feet lower than the floor of the adjoining building, the latrine.

NORTH GATE AND ROADWAY.

Excavation along the north wall exposed the remains of a gateway piercing it, an arrangement apparently unsuspected by previous observers of the forts on the Antonine Vallum. The discovery of the gateway suggested a possible roadway across the fosse, which by continued search was fully made out, and will be described along with the gate.

From the evidence of existing remains, it is apparent that the gates are an original part of the wall structure, also that they have been constructed on a uniform plan. The similarity is so obvious, that what is wanting in one may be verified by reference to another. The description of one, therefore, is applicable to all, but each will be referred to separately in its order.

The north gate is placed exactly in the centre of the length of the wall, the two sides being formed by right-angled *returns* of the latter directed inwards, allowing a width of passage for a roadway of 10 feet.

The foundation courses of these *returns* are of the same width as the wall foundation, viz., 8 feet, and are 14 feet in length, measuring from the outer face of it, terminating exactly on the line of the stone kerb that runs parallel with the wall in the interior.

These inward projections of the wall at the gateway seem to signify the erection of a superstructure over the entrance, of which they alone are the remaining evidence.

Of the north gate, the only part preserved is the foundation of the west side of the *return*. On this the recessed cheek—so much in evidence—is still distinct, and the stones used are of the same massive kind common to the whole of the wall. The *return* on the east side is

entirely removed, but the space it had occupied is well defined, and its area corresponds with that of the neighbouring opposite side, while between them the roadway remains almost entire, showing distinctly the method employed in its formation.

The whole space of ground occupied by the gateway has been completely excavated to a uniform level. On this the foundation is laid, and rises to a height of 2 feet 9 inches, while the roadway at the same place is 1 foot 6 inches above the excavated level, and falls one in ten as it passes through the gate, maintaining the same inclination outside. Where it passes through the gate—because of the level excavation or platform—it has required making up to form its inclined surface. (See Section No. 1, Plate II.) Toward the inner side, where it is highest, there is an arrangement of large boulders and broken stones, averaging 18 inches across. These are followed, as the road descends, by others of a smaller size, and so diminishing till the surface level is reached. Above this there is a layer of sandstone chips, and over all a top dressing of mixed gravel, forming a hard and compact surface, where still remaining.

THE WEST WALL.

Little now remains of the west wall; all stonework has been removed. A few remaining pieces of the bottoming alone enable the site to be distinguished from its surroundings.

The remains of the gateway showed that it had not occupied the central position of the wall, but that it agreed, and was in line with, the gate of the east wall.

A great part of the west defences are covered by the embankment of the railway, and what is left appears to have been subjected to considerable surface paring. There is still remaining a portion of the bottoming at the north-west corner, where it joins the north wall, which, from being on rising ground, and requiring some method to overcome an awkward position for building, may be worth describing. (See Section No. 5, Plate II.)

This portion of the west wall rises directly from the inner edge of

the expansion mentioned as part of the north wall at the corner, and forms a continuation with the bottoming of the latter. The inclination of the angle made in rising is greater than that of the present surface.

To overcome the natural tendency to displacement of the stonework on such a steep incline, several of the stones at the bottom are placed vertically like pillars, and sunk well into the ground, the parts protruding acting as revetments to the stonework placed behind them. Others, again, dip slightly below the horizontal in the direction of the rise, so that pressure upon them would have the tendency to fix them more firmly into the ground. The result is that this portion of the foundation still remains, when not a stone of the wall built upon it is left.

The bottoming of the west wall was traced on both sides of the railway, but it is very indefinite till it approaches the south-west corner of the fort. Here the indications are more distinct, showing the sweep it takes in making the curve to join with the south wall.

The foundation of part of a corner tower is well preserved inside the line of the wall, but the other portion, which evidently has been built on the wall, is completely gone, with the superstructure of the wall itself.

THE SOUTH WALL.

The south wall, like that on the west, has been almost entirely destroyed. The only portion now remaining is in connection with the south gate, where the evidence consists of a few remains of stonework, in their relative positions to the *returns* on both sides of the entrance (fig. 8).

The gate is exactly in the centre of the length of the wall, being directly in line with, and opposite the corresponding gate in the north wall, with which it agrees in all measurements, and distinctly shows the same method of construction. Strong wings on each side project inwards, enclosing an entrance way, steep and sloping outwardly, in the same manner as that of the north road.



Fig. 8. South Gateway, looking west. East return in foreground. Roadway on left, with west return at top corner.

A drain about 12 inches square covered with flagstones passes through the gateway, but only a short length of it remains. Small drains about 7 inches square, in the interior of the fort, have their inclination to it, apparently joining before passing through the gateway.

THE EAST WALL.

On the east the wall is now found in the best preservation. A part of it at the north-east corner still exists, which clearly shows all its characteristics—fully described under North Wall. The bottoming, foundation course, and part of an upper course remain *in situ*, and the foundation continues unimpaired as far as the south side of the gate, beyond which it is nearly all removed (fig. 9).

The east gate above its foundation is much destroyed, yet sufficient remained to enable its plan to be clearly made out. The position of the gate—on the outer face—is further distinguished by the foundation course being projected 6 inches beyond the normal line, for a distance on each side of the entrance equal to the width of the returns enclosing it. At none of the other gates was this arrangement traced, because the foundations of the corresponding parts were found to be totally dispersed.

The east gate also has a sloping roadway into the annex, similar to what is so distinct a feature of the north and south gates. The formation of the roadway through the gate being identical with that of the north entrance, all the wall southwards of the gate has been entirely removed: even the bottoming has been quarried to some extent, for the stones still remaining give indication of much disturbance, and large blanks occur in several places. Many of these stones, along with squared stones like those of the upper structure, were found near the bottom in the adjoining trench when it was explored.

At 120 feet south of the gateway there is a small oval chamber built in the wall, which, from its evident connection with an adjoining building, will better be described along with the interior buildings.



Fig. 9. East Wall, looking north-west.

TRENCHES OF THE FORT.

The trenches surrounding the fort wall—other than the north front—are two in number, with an intervening flat-topped mound of the natural soil, 10 feet wide (Plate III.). The soil in which they are cut is boulder clay, and they have been filled up with similar material, but considerably more free in its nature, which enabled the outline of the trenches to be distinguished, by the difference between it and the soil remaining in a natural condition, although correct definition of form in all cases was not obtainable. The berm is 5 feet wide from the outer edge of the bottoming of the wall, and the complete measurement of the defences is 52 feet, from the inner edge of the foundation to the outer edge of the furthest out trench.

Along the west side of the fort the surface presents the appearance of having been greatly disturbed, and probably reduced in height, for, besides the sparse remains of wall foundation, what exists of the trenches are but narrow and shallow depressions, from 3 to 4 feet in depth.

The west trenches begin on the north, exactly on the inner side of the Antonine rampart, where it is extended from the fort westwards. The ends are not connected, but terminate free at this position. As they approach the vicinity of the probable position of the west gate, which is wholly removed, the outer trench stops at 20 feet short of it, while the inner is continued till it reaches the normal position of the gate. The evidence is completed by the reappearance of the trenches further south, the width between being the same as that indicated by the erection of the east gate, with which it is in direct line.

The ends of the trenches on the south side of the west entrance are not free as those on the north side are. They are joined together by a short trench, returned at right angles, and running parallel with the line of roadway, whereby the one is continued into the other unimpeded.

In the cuttings south of the railway the trenches are of their full proportions, which they maintain, and in a uniform manner sweep

round the south-west corner, continuing eastward with the same regularity to the south gate. Here they are connected by a short trench parallel with the roadway issuing from the gate, as in the previous instance. Beginning again on the opposite side of the roadway with the ends free, they continue eastward, but the greater part of this extension is now buried under the embankment of the railway.

As the south-west corner was so well defined, and found to be rounded, it is most likely the south-east corner was treated in the same manner, but for the reason stated above this could not be verified.

On the east the trenches continue in the same uniform manner. There is, however, an extra trench introduced—additional to the ordinary number—which extends from the south side of the east gateway for 100 feet in direction parallel with the others, and of the same width, 14 feet. It terminates on the south against the margin of a paved road crossing in an opposite direction.

Where these three trenches approach the gateway, they are joined to each other by means of a connecting trench, which is parallel with the road issuing from the gate for the inner half of its length, the remaining portion bending southwards to join the outer trench enlarges the area in front of the gate.

The continuation of the east trenches to the north of the gate is arranged in a manner similar to those on the west defence. Both ends are free, and the inner trench comes close up to the roadway, while the outer is kept back 10 feet, which, in conjunction with the angled trench on the opposite side of the road, forms a wide open entrance in front of the east gate. Search was made to find if there had been a traverse at this position, but without result.

It was not possible to obtain complete evidence to correctly define the northern termination of these trenches, as the public road cuts through them, almost obliterating any indications. But from what was still reliable, it is certain that they did not extend beyond the inner margin of the Antoine rampart.

There are several features about these east trenches, not observed in

connection with any of the others, that may be mentioned here. The whole of the inner trench was explored, and from it was collected a lot of the usual Roman ware, also fragments of foot-gear. But what was particularly noticeable was the large quantity of squared stones among the soil, apparently thrown in along with it. Among them was found one with X X incised. The majority of the stones had undoubtedly formed part of the adjacent wall, from their resemblance to



Fig. 10. Stones found in the East Trenches.

existing specimens still in position. They vary in size from 12 to 18 inches, the general average being a cube of 15 inches. Many similar are common in the field dykes of the neighbourhood. (See Fig. 10.)

There is a marked contrast to the above in the explored cuttings of the outer trench. Through it several cuttings were made, the excavations being accomplished with difficulty, owing to the hardness of the ground and the quantity of stones hard-pressed into it, especially near the surface. These, however, were principally natural boulders from 6 inches to 9 inches in size. They were met with at 18 inches below

the surface, in the form of a paved road, which, besides being laid over the trench, continued in a regular manner over part of the mound on its inner margin. In the trench itself below the paved work were many of these stones in heaps together. (See fig. 11.) The evidence supports the supposition of this being a roadway, from its presence in each cutting, and it is as evident that the trench over which it is carried had been previously formed.

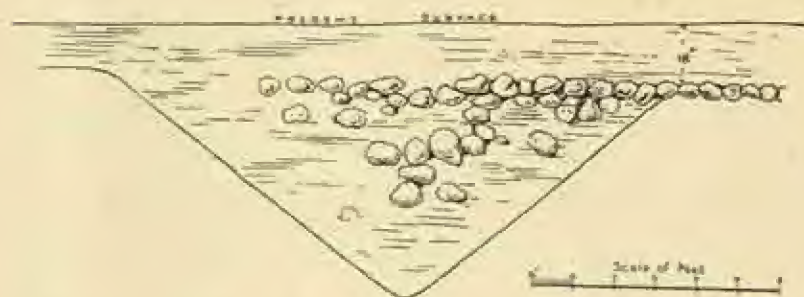


Fig. 11. Section of Eastmost Trench of Fort, with subsequent road formation.

RAMPART AND TRENCH OF THE ANNEX.

The Antonine Vallum protected the whole north front of the annex; the defences surrounding all the other sides were evidently like each other and consisted of a rampart and trench.

Of the rampart there is no appearance above ground, but excavations exposed a stone foundation 8 feet wide following closely the line of the inner edge of the trenches.

The margins of this foundation were formed of squared stones set regularly and close together, the interval being made up with rough rubble and boulders, somewhat similar to the base of the Antonine rampart. As it appeared the same in all the cuttings, nowhere showing any indications of a built superstructure, it is probable this defence may have been constructed after the manner of the rampart aforesaid.

There is no berm on the south face. The margin stones of the rampart

are within a foot of the edge of the trench, but on the east face the berm is very distinct and is $5\frac{1}{2}$ feet wide.

A void, or blank, occurs in this foundation exactly on the line of the military way, which no doubt indicates the position of the gateway. And as this appears close upon the public road, farther search had to be made in the field on the north side, where the defences were again exposed, continuing their course to join with the Antonine rampart, here very much disturbed.

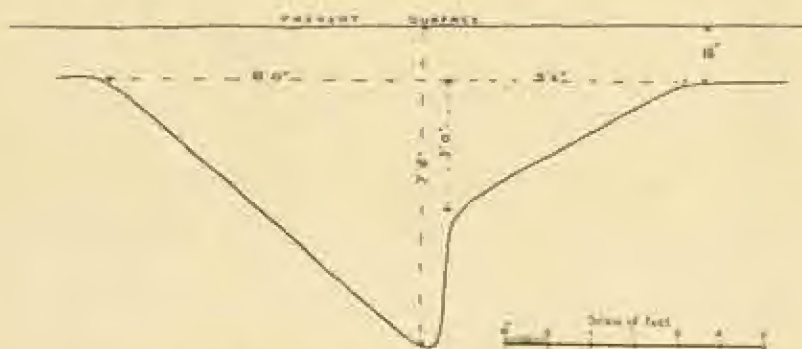


Fig. 12. Section of East Trench of Annex, south of the gate.

The trench of the annex is 14 feet wide and about 7 feet deep. In the general cuttings it is V-shaped, similar to those of the fort; but close to the gate, on the south side of it, the form is of a character not observed anywhere else.

The counterscarp was of the usual slope, but the scarp rose abruptly from the bottom, with very little inclination beyond the vertical for a height of over 3 feet, and thereafter sloped at an acute angle for a length of 5 feet (fig. 12). Farther south along the trench this formation, while still evident, was less marked by the sharp corner being rounded off where the acute angle leaves the vertical, and it had disappeared altogether at the turn of the trench to the west.

The line of trench is continuous all round the annex, from where it

is found at the railway embankment, till it reaches the gateway. Here it stopped against the roadway at the entrance, again being traced in the field north of the public road, where it continued till it approached the Antonine rampart. It ended close to the stone margin of the rampart. (See the Section on Plate II.)

BUILDINGS WITHIN THE FORT.

Judging by the appearance of remaining portions of buildings within the fort, there is evidence of workmanship of two distinct types, if not of two periods. One is represented by a building constructed with neat little stones, almost like modern bricks, seldom larger than 9 inches long by 6 inches deep and broad, nicely squared and even ornamented on the exposed face with reticulated lines—each stone being equal in height and so carefully set that the joint between even the lower courses is an unbroken horizontal line; the other by a building occupying a prominent position, the stones of which were irregular in size, being $10 \times 8 \times 7$ inches and $12 \times 7 \times 9$ inches, to as much as $12 \times 12 \times 12$ inches, all hammer-dressed and squared, but without any evidence of tooling on the face, the introduction of the unequal-sized stones interrupting the horizontal continuity of the joint of the courses. The whole work, although more massive, presents a coarser appearance than that previously described.

The centre of the fort is occupied by several buildings, all in direct line where they face the south. The central building is placed with its greatest length from east to west, and is flanked at both ends by others lying north and south (fig. 13). As the latter buildings are projected beyond the north face of the former, a space in front of it is thereby enclosed having the appearance of a courtyard open to the main thoroughfare, in which there was exposed in several places remains of flagstone paving.

The central building consists of two chambers, and is 85 feet 6 inches long, and 34 feet wide over all. The chamber on the east is 50 feet long and 29 feet wide, and has two doors in the north wall each 6 feet

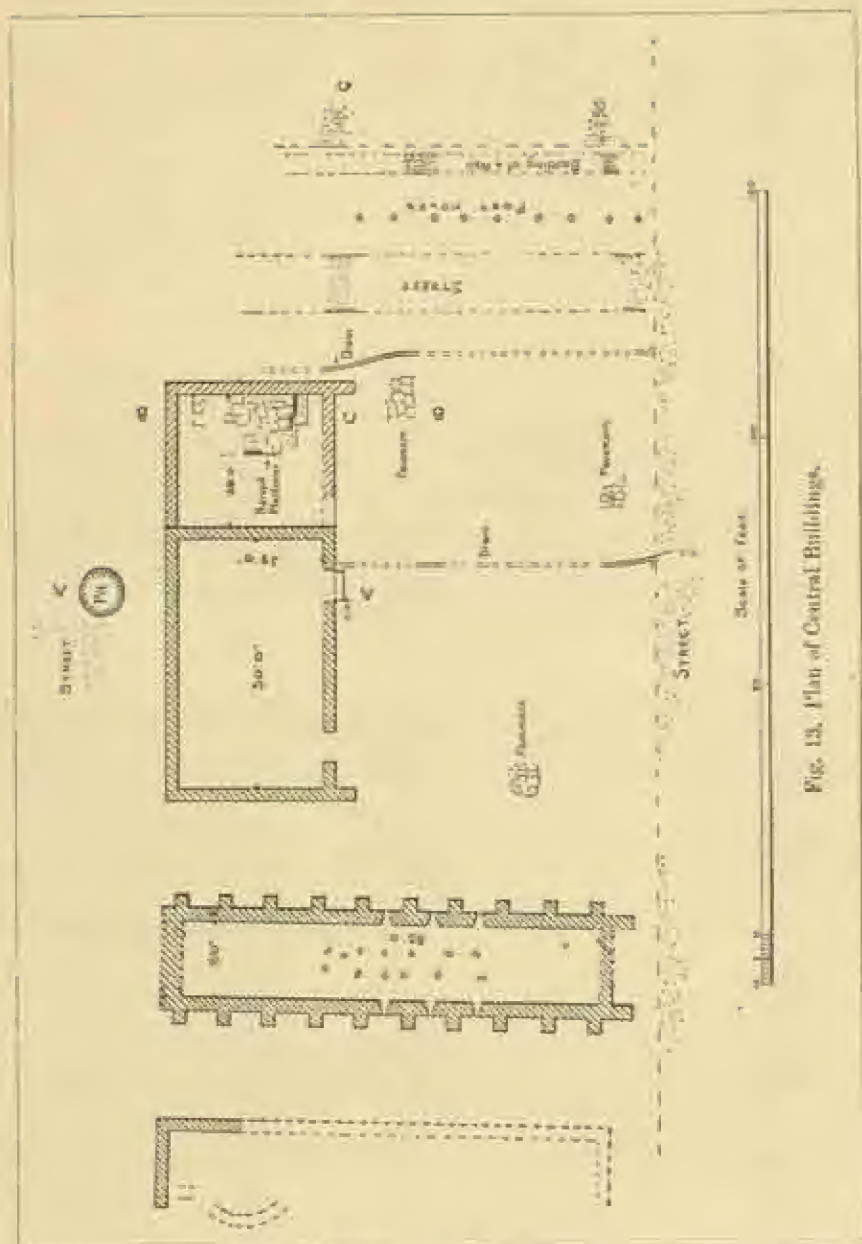


Fig. 13. Plan of Central Buildings.

wide. The adjoining chamber on the west is 28 feet long and 29 feet wide internally, and all the walls have a uniform breadth of 30 inches.

There are indications that the west chamber is a subsequent addition to the larger chamber on the east of it. Where the walls of the former meet those of the latter they are not bonded together, the junction being simply a butt joint. Likewise the courses of the stonework are not on the same plane, and are of a much coarser description. This is specially noticeable at their junction on the north front.



Fig. 14. Stone Sill on north front of Central Building.

The walling of the east building is finely squared and tooled on the face, and one stone still stands which presents a polished surface. The stone sill of the centre doorway bears evidence of having been some time in use (fig. 14).

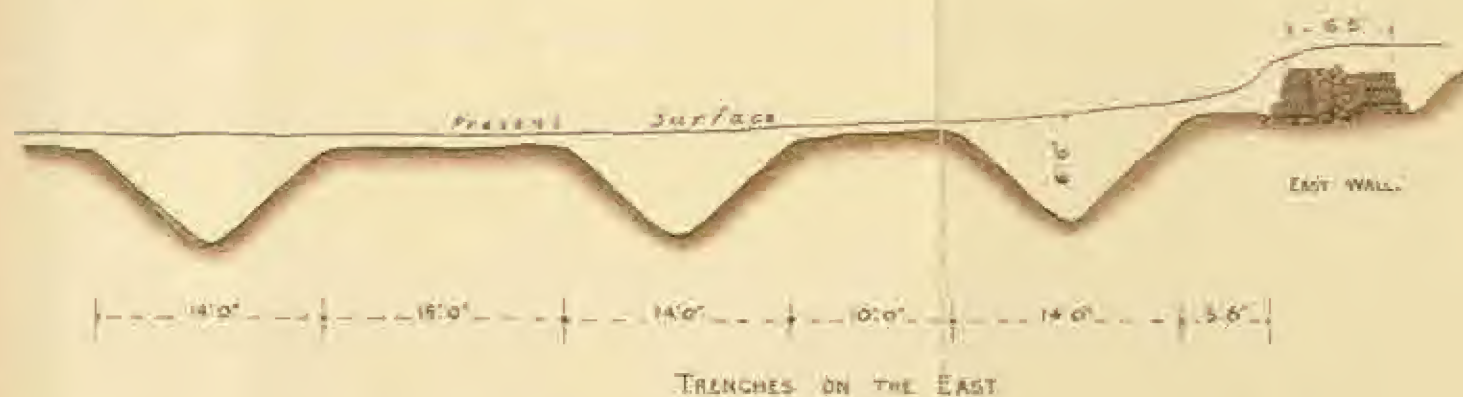
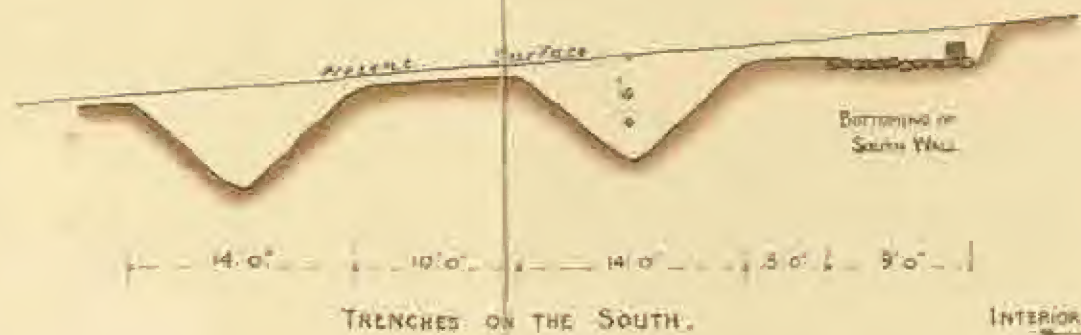
The walling of the west is only hammer-dressed and roughly squared, the contrast being very striking where the two abruptly meet.

Both end walls of this building finish with a buttress projecting 4 feet beyond the face of the north wall.

In connection with the site of this building there has been very special preparation.

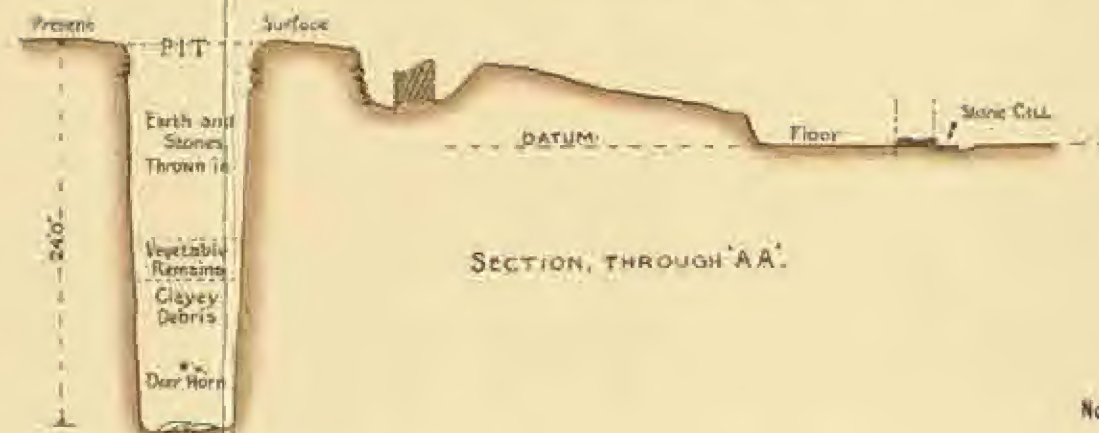


SECTIONS OF THE FORT DEFENCES.



Scale of 10 20 30 40 50 Feet.

SECTIONS - CENTRAL BUILDINGS OF THE FORT.



The ground rapidly slopes to the north in the vicinity; and as the foundations are practically level throughout, extensive excavation has been necessary, but it is noticeable that the excavation is limited to the position occupied by the building (Section A A, Plate III.).

Beginning slightly in front of the north wall of the central building, the ground has been excavated level over the whole site, stopping at 2 feet beyond the south wall, where it reaches a depth of 5 feet from the surface. A 2-feet space that intervenes between wall and cutting has been utilised as a dry area, by the face of the cutting being lined with rough stonework to retain the soil in position, and allowing a free water-course in the bottom, which falling towards the west connects with a drain outside the west wall of the building.

The surface of the eastmost chamber was of the solid nature common in the fort, and level with the stone sill of the west door. There has been great disturbance in this interior, so that it is very probable that what exists is not the original floor, particularly as evidence of flagstone paving is found both in the adjoining chamber and in the courtyard.

In the west chamber there is a raised platform, a foot above the floor level, occupying all of one side and projected well into the apartment. It starts square off the west wall, and the corners are formed by recurring square *returns* (fig. 13). The platform rises from the floor with a square kerb, above which it is formed into a bevelled plinth course, the surface continuing from the top of this with large pavement flagstones about 2 inches thick laid on a bed of stones and clay (Section B B, Plate III.).

Besides the dry area, this building has been well supplied with drains, as two were opened in close connection. One, as already stated, runs close to the west wall; the other begins at the central door; and both are continued down to the principal street.

The walls, 2 feet 6 inches wide, are laid on a stone foundation which projects 6 inches beyond it on either side, and rests upon the usual boulder and clay bottoming. The clay still remains intact even up into

the first course of walling, but no evidence of lime appears in the upper structure (fig. 15).

The south wall of the building is preserved for a height of 5 feet, and there is no bonding course in it. The system of building adopted is that of an outer and inner casing of squared stone, the centre being filled up with sandstone chips and boulders, after the manner of the



Fig. 15. Inner Face of South Wall, Central Buildings.

fort wall; but all evidence of lime has disappeared through its long burial in the ground.

On the east of the central block of buildings, separated by a street 21 feet wide, is a strongly buttressed building, all one chamber (figs. 16, 17), 83 feet long and 15 feet wide within the walls. The latter are 3 feet broad, and stand at an average height of 3 feet above the inside floor. Twenty buttresses, each $2\frac{1}{2}$ feet square, project from the east and west walls, ten on each side, placed opposite one another. (See the ground plan, fig. 13, and Plate L.)

One buttress on the face of the east wall is built between two large



Fig. 16. Butressed Building, looking north.



Fig. 17. Interior of Butressed Building, looking south-east.

boulders, which have been allowed to remain *in situ*. But it appears that the space had proved barely sufficient for it, as the boulders have been slightly clipped to gain the requisite width (fig. 18).

Between the third, fourth, fifth, and sixth buttresses from the north, and about the centre of the building, are three window-like openings in the east and west walls, directly facing one another. They are splayed from an opening of 6 inches on the outside to 30 inches on the inside of the wall, and the sole of each is level with the floor of the interior.



Fig. 18. Outer Face of the East Wall of Buttressed Building, showing buttress built between two large boulders.

They are open for the entire height of the existing wall, about three feet, and when first exposed appeared purposely closed up with stones, but in a very temporary manner (figs. 19 and 20).

As distinct from the central building, this is built on the natural sloping ground, with but a slight levelling in a series of steps for the foundation.

Generally the courses of stonework are horizontal, but in several instances they are depressed below it and follow the slope of the ground. The side walls have evidently terminated with buttresses on the north, as there are the remains of one to the east wall at this



Fig. 19. Interior of Buttrick Building, showing opening in wall. West side.

position. But as regards the opposite wall it has been so destroyed as not to be distinguishable.

Many stones were found lying on the surface of the floor, principally in the rising portion, mostly large boulders 1 foot to 18 inches in size. Several of them on examination were found to be firmly bedded in the



Fig. 29. Interior of Buttressed Building, showing opening in wall. East side.

floor with clay, and having the appearance of being purposely laid in two distinct rows.

Only those which were fixed are indicated on the Plan, fig. 13. It is possible those lying about and free had been set on top of the others. A single instance of this was actually observed. Several of these stones appeared to have been subjected to fire, and on various parts of the flooring clay was discovered which was burnt red as if by the same influence. But perhaps there may be other reasons to account for these

appearances than that of fire, for the evidence obtained was not conclusive.

With reference to the above, it may be stated that on the outside of the east wall, on the original surface of the ground, there occurs a layer of coal dross 1 inch thick stretching along the south half of the building. Near its north end is an additional layer of the same material, $1\frac{1}{2}$ inches thick, above the former, and separated from it by a 4-inch layer of soil.

In a corner formed by a buttress and the wall where the coal dross lay thickest, both the wall and buttress bore distinct evidence of the effects of fire for a height of 18 inches above the foundation. This, however, had no connection in any manner with the interior. The coal dross was very small—none of it exceeded an inch cube; and the depth under the present surface at which the higher layer of dross appeared was not more than 18 inches.

There is evidence of a subsequent alteration of the south wall of this building, both externally and internally. It appears that a wide doorway originally had existed in this end wall, with buttresses on each side of it, prolongations of the side walls. This door and the entire front have been built up flush with the face of the buttresses, increasing the width of wall to about 5 feet (fig. 21).

The method of building is similar to that of the walls proper. There is a lining of squared stones on both faces, and the interval is filled with apparent concrete, which now is only a mass of sandstone chips and other unworked stones—all evidence of lime being gone.

Considering that the method of building is the same as the rest of the building, and that the alteration indicates deliberate intention, there is no reason to suppose it other than Roman work, found necessary after a short interval of time had elapsed.

Running parallel with the above at a distance of 21 feet are the remains of another building exactly the same in length, and apparently the same in width; all that now exists is a few feet of its south wall. After tracing out the foundations, it proved to be a long one-chambered

building similar to the last, without buttresses, but with a large apse at the south end of the east wall. The original surface all round about it was hard-pressed gravel, evidently roadways. Every stone of this great building has been removed except the short piece of the south wall, the bottoming only marking its site.



Fig. 21. South-east Corner, Interior of Buttressed Building, showing Doorway built up.

Situated near the south-east corner of the fort are the remains of the finest piece of building work exposed by our excavations, and these lie close to the present surface (fig. 22).

Its excellence consists in the neatness of the work, its exact geometrical lines, and the regularity of the stone courses. Although the latter are the very lowest, and likely to have been covered up, they have a finished appearance. The common size of stones used is about 9 inches by 6 inches.



Fig. 92. A piece of building near southeast corner of Fort.

This building is no doubt the same as that of which General Roy gives a plan entitled "Plan of a Roman House with a warm bath belonging to it, in the east angle of the station of Castlecary," which has been reproduced at p. 281, *ante*. At any rate, no other building of such a size could occupy that position, and the resemblance is almost perfect as regards the single apse chamber, which is the only part now remaining that could be examined. There is no door in the south division wall



Fig. 23. Oval Building in East Wall, looking west.

as shown by Roy, but this may be accounted for by reason of the existing remains being lower than the door-sill. The buttress on the west wall is still very distinct.

The wall on the west is 3 feet broad, while that of the east and apse is only 2½ feet. Indications of the foundation of the round chamber on Roy's plan can be traced, but it is very imperfect, being nearly all destroyed. This same chamber must have been very close to the fort wall. Indeed, if the 14 feet width of wall had been carried along the

cast as it was along the north front, the circular chamber would only have cleared it.

Closely adjoining and lower by $3\frac{1}{2}$ feet is a small oval building, like a furnace (fig. 23). Internally it is 6 feet by 3 feet 9 inches on the flagstone floor. It is not on Roy's plan. The walls stand 2 feet high in four courses, and have a batter of $4\frac{1}{2}$ inches in that height. A short length of a flue 14 inches wide runs round part of the west end, in the direction of the circular chamber above mentioned. The flagstone paving is bedded on clay, and when exposed showed indications of the effect of fire, and the soil in the flue was highly charged with soot.



Fig. 24. South-west Corner Tower.

On the east side of it the walls are built in the form of a mouth, or opening, and at the same position the flooring is raised 6 inches, at which level it is continued outward to the face of the fort wall, a distance of $4\frac{1}{2}$ feet. Therefore this oven or furnace is largely built into the body of the wall, and on the inside projects beyond it a little.

At the south-west corner of the fort—the only one of the south defences that it was possible to examine—are the remains of a 15 feet square building (fig. 24), placed diagonally to the south and west walls of the fort. Two courses of the stonework remain of the unusual width of 4 feet, being the internal part. The outer portion of the structure is all gone, perhaps removed along with the wall of which

possibly it had formed part, as the wide foundation of large stones would seem to indicate a strong building of more than usual height.

A little to the east of this building, on the inner edge of the south fort wall, lies the only remaining stone of this defence, except those at the south gate. The depredation is so complete that even it is found to be displaced.

Situated about 30 feet from the inner face of the east wall, and abutting against the north wall, is the remains of a building 16 feet by 12 feet internally, with walls 2 feet broad (Plate IV.). An entrance door $2\frac{1}{2}$ feet wide is formed in the centre of its west wall, and the interior is paved with large flagstones. The north and south edges of the paving have each a square-cut recess 2 inches deep by 7 inches long, evidently prepared for receiving standards. An open channel $1\frac{1}{2}$ feet wide and 2 feet deep runs round three of the sides, and passes underneath the paving on the remaining side, which is that of the entrance. This building (fig. 25) is not truly parallel with the fort wall. In its width it is fully a foot more at the west end than it is at the east end, and the stonework of the walls is very coarse. The level of the door sill is 21 inches above the inner stone margin of the fort wall, and fully 4 feet higher than the wall foundation. Near the west wall of this building begins the expansion of the fort wall from 8 feet to the increased width of 11 feet, which is maintained till its junction with the east wall.

The usual heavy stones of the second course along the inner face of the fort wall are replaced, opposite the space covered by the building, by smaller stones. None are larger than a foot square, and these form the whole northern face of the channel and north wall of the building. In this channel, when exposed, were flagstones placed V-shape, close together at the bottom and wide at top, lying against the sides of the channel. They occurred in nearly the whole length of this channel, but were not found in any other position.

Outside the east end of the building, *etc.*, in the corner where the east and north walls of the fort meet, on a level with the foundation, is a layer 9 inches deep of sandstone chips mixed with sand. Lying immedi-



Fig. 25. Lathin, looking south-east.

ately on the top of this is a layer 1 inch thick of coal dross similar to that observed at the buttressed building. The remainder of the filling in is of the ordinary soil.

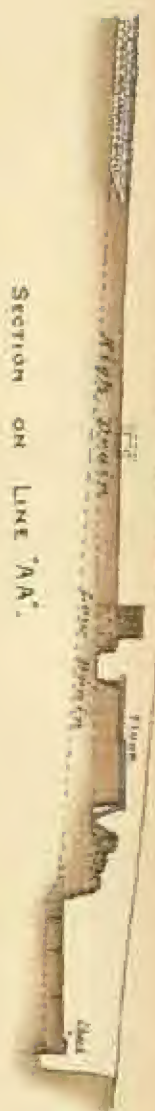
DRAINS.

Approaching the latrine from the south is a stone-built drain fully 1 foot square covered with large flat stones, which before reaching the south wall of the building separates into two branches and enters it at opposite corners (Plate IV.).

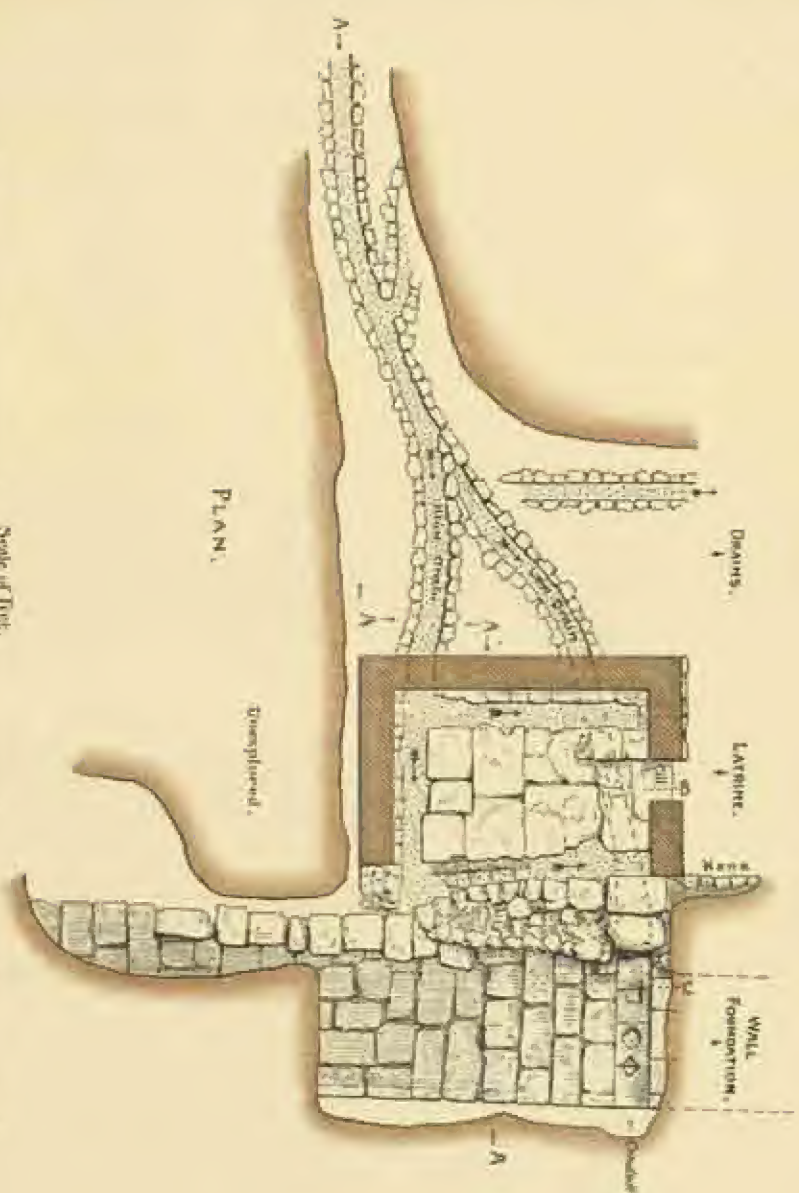
The main drain starts from the north side of the centre street of the fort, appearing to have had connection with a drain along the edge of the street. On leaving the latter it is carried northward till within 30 feet of the building, where it changes its course, inclining more to the west. This inclination leads it in the direction of the west end of the building. The fall is very rapid, so that it passes completely under the foundations. Emerging on the opposite side, it joins the conduit formed in the wall of the fort, and by the direct manner of the connection it is evident both drain and conduit belong to the same original system.

The conduit (fig. 26) is formed in the foundation of the north wall of the fort, and is 2 feet wide and 14 inches deep. The bottom is of solid blocks of stone. The sides are formed by the edges of the foundation-stones, and all upper stonework is removed. In the bottom are three indentations each about 1 foot across; one of them is a square set diagonally. The others are irregular in figure, but all are recessed about $\frac{3}{4}$ inch into the stonework. They are evidently intended for inserting pillars, possibly to obstruct entrance to the fort by this wide outlet.

The drain leading to the conduit is well constructed of squared stones and covered with large flagstones closely laid, and, as already stated, appears to have been the original drain conducted through the wall. But a part of it seems subsequently to have been disconnected, for at 12 feet south of the building a branch from it has been made to come into the building at the south-east corner, at a higher level by fully a



SECTION ON LINE "A.A."



PLAN.

SECTION AT B
Apparent termination of Drain

SECTION AT C.
Entry of Drain into Conduit.

LATRINE, & ADJOINING FOUNDATION OF NORTH WALL.



Fig. 26. Conduit through north wall.

foot than the other. Where the branch-off is effected the connection with the other drain is built up, and the stones interposing are arranged as part of the new branch.

Whether this is a modern arrangement or not, unfortunately cannot now be ascertained; but in the upper portion of the last-mentioned branch, drain tiles of modern make were found in the bottom of it.

The drainer had evidently struck the channel, and, so far as found uncovered with flagstones, had placed his drain tiles along the bottom, and where these ceased it may be assumed he had found the remainder of the drain still in working order, or at least suitable.

This latter, or high drain, enters the building by a square-built aperture near the east end of the south wall, the opening being 15 inches wide and 21 inches high (fig. 27). Of the internal channels, that on the south falls 6 inches to the westward. The north has a fall of 9 inches in the same direction.

The connection between the channels in the west could not be distinguished owing to the destruction at that part, and there was no outlet to them. Search was therefore made and excavation continued through the débris in the direction of the entrance door. Just before reaching the latter, among a very disturbed lot of tumbled stones, there appeared a possible connection joining the channels with the conduit. Two openings of drains were exposed, the one above the other. (See Section B, Plate IV.)¹

The lower drain was traced up from the conduit passing under the north channel, here greatly disturbed, and at a foot north of the doorway the first appearance of the upper drain was exposed. The stone covering it looked crushed down, but was not broken, and the whole drain was filled with a black viscons deposit. A thin flat stone separated the two drains, serving as the top of one and the bottom of the other. Where they made junction was at the top of a steep incline to the rear of the conduit.

How the drainage was directed into the channels along the walls of

¹ The arrows indicate the direction in which the drains have their fall.



Fig. 27. Latrine, showing entrance of high drain through south wall.

this building is not clear, but there would of necessity require to be some method adopted to direct the flow, so that both channels would be flushed.

There is evidence that the main drain outside had been connected with other drains. One of these joined it 20 feet south of the buildings appearing to come from the west. But this is not to be confounded with the large east to west drain running parallel with the fort wall. This latter has its fall westwards and takes a turn at the north gate,



Fig. 28. Drain on west of central buildings.

clearly indicating that it passed out of the fort in a manner similar to that of the drain passing through the south gate.

Drains or parts of drains were frequently met with during excavation, those followed up generally ending after a short run, being destroyed. No system could be followed entirely, and there were evident alterations.

On the outside of the west wall of the central building of the fort (fig. 28) is a well-made drain 8 inches square, of stones set on edge without cover stones, which is carried along the west side of the square in front of the building down to the centre street; there it joins

another, evidently on the south edge of the street. Another of the same size starts from the west side of the centre door of the central building, and runs parallel with the former through the middle of the square, joining the same east and west drain on the edge of the street, but it continues as if crossing the street in the direction of the north gate.

The large drain running parallel with the north wall at about 25 feet from the inner kerb has its fall from the east towards the north gate. It is about 1 foot square and is built of squared stones. Part of it is still covered with large flagstones, although most of it is uncovered. It was opened for its whole length, and what is somewhat remarkable is the fact that it begins close upon, and may have overlain, the drains leading to the building at the north-east corner. It could not, however, have connected with them, as where first seen it is fully a foot above the highest, and has a decided fall in the opposite direction, passing out, as stated above, through the passage of the north gate. On the west of the gate there appeared the remains of a similar drain in line with the latter, but it was almost totally destroyed. On the south side of the fort, at the gateway, the passage of a drain to the outside was definitely traced, although the termination was completely gone. It approached the gate in an angular direction from the west, but passed straight through it, almost close to the west side of the roadway. It is of the usual construction, having stone sides, a hard bottom, and covered with flagstones, and is 1 foot square internally.

About midway between the south gate and the corner turret, two drains run close together without having any apparent connection (fig. 29). In both the fall is to the west, but the lower of the two begins as if from the surface and gradually increases in depth as it falls westwards, whereas the other and higher maintains a uniform depth for its whole length, and at its end on the west turns with a sharp corner to the north, beyond which it is destroyed. A few feet farther west there is a large, and what appears to be a general catch drain, inside the west wall of the fort. It is 14 inches square

internally, and is strongly built of large stones, covered with heavy flagstones; commencing at 12 feet north of the corner turret, it was traced for a distance of 90 feet. Its course is parallel with the west wall for 55 feet, then, taking a bend westwards in the direction of the west gate, it continues for other 35 feet, where it enters under the embankment of the railway.

At the south-east corner of the fort, in the interior of the building, there is a drain 7 inches wide and 12 inches deep, stone built and

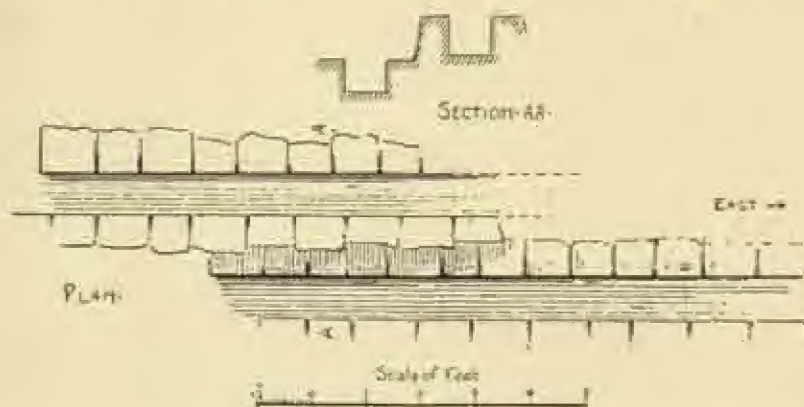


Fig. 29. Parallel Drains near south wall.

covered, which begins in the centre of the upper chamber at $4\frac{1}{2}$ feet from the inside of the east wall. It runs in a northerly direction for 30 feet, and has connection with another drain coming from the direction of the circular chamber. Beyond this it is all destroyed. Possibly this may have been a heating flue.

REVERSE PIT.

In front of the south wall of the central building of the fort, at the head of the street leading up from the south gate, there is a pit 9 feet wide at the top, tapering to about 6 feet at the bottom, 24 feet from the present surface (Section A A, Plate III.)

The soil for the first 12 feet of its depth was similar to the surface soil, and evidently thrown in—no remains were got in it. The next three feet was a layer of decayed vegetable matter, and the remainder of the depth was filled with a dark-grey viscid mass, clayey in its nature, which on exposure to the air became coated with pale blue vivianite.

In the latter and the layer above it were found fragments of black Roman ware, and sandals or foot-gear, also pieces of decayed wood and a few animal bones.

A small piece of deer-horn was found at a depth of 20 feet, and no other relics were deeper.

The bottom was formed of very large boulders, but the sides gave no evidence of having been stone built. Stones, however, ran round the top, on the surface level of the streets that meet in the vicinity of it.

STREETS OF THE FORT AND ANNEX.

The stone-bottomed streets were of the usual type exposed by our excavations, consisting of a bottoming made of rough stones, principally boulders, the smallest placed on top and filling the interstices.

The surface is rounded, with a distinct elevation in the centre, and is covered with a layer of small pebbles and gravel pressed into a compact mass. The depth of the formation averages 12 inches.

In its width from north to south the fort is divided into three equal parts, each about 117 feet. The central part contains the principal buildings, and on the front and rear of them are streets, the centres of which coincide exactly with the divide mentioned. These streets are 20 feet wide, and cross the fort from east to west. That on the north side connects with the military way at the gates of the east and west walls.

Joining them in the centre, but separated by the central buildings, is another street of the same width. One part of the latter goes direct to the north gate, and the other to the south gate, and being truly central divides the fort lengthwise into two equal portions, the east and west halves being of equal area.

At intervals there are indications of a street going round the entire fort, inside and close to the walls, but little of it remains.

At 14 feet west of the central buildings there is a stone-paved street 12 feet wide running north and south. The crown of the roadway is 7 inches lower than the stone sill at the entrance of the building. Running parallel to the street, and distant from it 8 feet, is a series of holes, 9 in number. They are about 18 inches in diameter and 12 inches deep, and spaced on an average $7\frac{1}{2}$ feet apart. They contained stones and pieces of decayed wood. It is possible the bases of wood posts may have been fixed in these holes, as at 10 feet westwards there is the foundation of a stone wall, 4 feet broad, with which they may have been connected in the form of a verandah, and especially as immediately behind the wall is an extensive stone-paved surface like the floor of an interior. This stone paving begins at 18 inches west of the wall foundation, and extends for a distance of 10 feet, where it finishes in a manner which gives indication that it had continued for a longer distance. The fact that it approaches very close to the present surface at its west end may account for its indefinite finish, for the paved floor is practically level, while the ground slopes very quickly at this part, and appears to have cut through the paved floor in its fall.

In the annex the military way is carried right through, from west to east, parallel to the Antonine rampart. It is not in direct line with the connecting street inside the fort, but is set back from the gate northwards about 20 feet. Its width could not be obtained, as it is only partly in the field, the remainder being part of the public road adjoining.

Parallel with the above, another street, 15 feet wide, crosses the end of the eastmost trench of the fort, which was traced for 37 feet east of the trench.

The only other street exposed in the annex was a short stretch in the south-west corner. It seemed to have connection with the fort, but to follow it was impracticable owing to its position being close to the railway embankment. It is first observed close to the outer face of the fort wall, where there is little of it, but it widens out as it goes eastward.

It crosses over the first trench which terminates against it, and on reaching the edge of the second it stops, but appears to continue southwards under the embankment. It is stone paved and about level with the small oval chamber in the fort wall a little to the north, both being $3\frac{1}{2}$ feet below the floor of the adjoining building in the interior of the fort.

MILITARY WAY, SOUTH.

This road was clearly traced for about 1000 feet of its length beyond the fort. (See Map, fig. 1.)

Issuing from the south gate, it is carried in a direct line through the morass in front of the south wall. The width across the stone bottoming is 30 feet at this part.

It continues the direct course till it reaches what appears to be an old stone quarry, beyond which it is not traceable.

A branch, 15 feet in width, strikes off the direct line at 200 feet from the wall of the fort, and, with an inclination more to the south than the previous road, rises to the summit of the higher ground, along which it continues. On its approach to the high ground it crosses a small streamlet at an angle to it. Both sides of the streamlet are built with large stones for a length corresponding to the width of the road adjacent to it. The width of the streamlet being under 2 feet, it would be easily stepped, and the level is made high, so as to give dry crossing.

On completion of our work, it is a duty to remember, and a great pleasure to record, the assistance received outside of the executive committee. We therefore acknowledge we are greatly indebted to Mr C. Brown, F.S.A. Scot., factor to the Earl of Zetland, who took a personal interest in, and did his utmost to facilitate, our operations in every possible way. Also to Mr J. Ralston, forester, for much assistance and for his kind consideration in preparing a shelter for the excavators, which proved of great service during a season more inclement than usual.

We would gratefully acknowledge the guidance and help of Mr J. R. MacLuskie, F.S.A. Scot., by whose long experience and knowledge of the district the work was more easily followed.

We have also the satisfaction of recording the unabated enthusiasm of the young friends who assisted at Camelton, who have again taken great interest in our progress, and freely helped on all occasions.

Mr James Strang, jun., architect, made a careful study of the levels, so exhaustive as to be of great service on a site where the surface is of a character so irregular and sloping.

For the valuable assistance of Mr D. Maclay, jun., our warmest thanks are due, who constantly attended at the survey, and with intelligence gained from experience in like work facilitated our labour to a great extent.

PART III.—NOTICES OF THE POTTERY, BRONZE, AND OTHER OBJECTS FOUND DURING THE EXCAVATIONS AT CASTLECARY. BY JOSEPH ANDERSON, LL.D., ASSISTANT SECRETARY AND KEEPER OF THE MUSEUM.

Pottery.—The pottery found at Castlecary is of the usual character, consisting of red Samian ware, dark grey and blackish ware, with a mixture of soft red ware, and the usual coarse thick whitish or whitish-brown ware of which the larger-sized vessels are made, such as amphore and mortaria, and a quantity of red tiles.

The red Samian ware was found in considerable abundance, the pieces mostly small, although in one or two cases it was possible to join them so as to show the form of the vessel. About sixty of these fragments belonged to decorated bowls of the common form, with a roll moulding round the lip, and the festoon and tassel ornament under a plain band about an inch in width underneath the rim, the curving side of the bowl divided into panels with straight edges, or into circular medallions, filled with figure subjects or other devices.

The largest piece (fig. 30) indicates a bowl 7 inches in diameter and over 4 inches in depth, ornamented under the festoon and tassel

border by a series of panels divided by crimped mouldings and narrowing towards the bottom. The panels are alternately 2 inches and $\frac{1}{2}$ -inch wide at top, the broad ones being filled by a medallion containing two running beasts, and the narrow ones by a caryatid figure.

Some of the other fragments (fig. 31) show figure subjects of various kinds, but in no case sufficiently entire to make out the complete pattern.

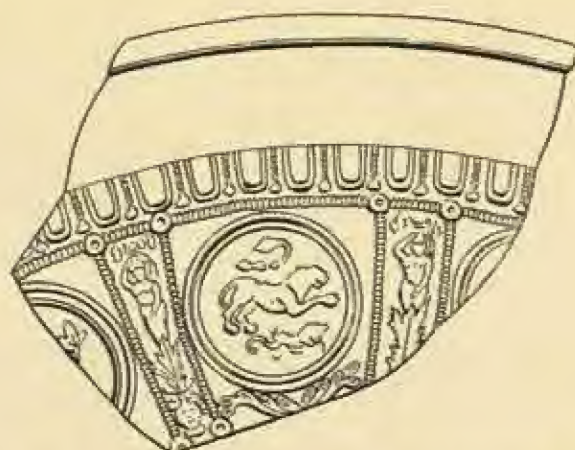


Fig. 30. Portion of Samian Ware Bowl found at Castlebury. (3.)

Two pieces of similar ware, thinner and softer in texture, are parts of a more globular vessel, with the bulge of its sides covered with a peculiar stamped ornamentation which has somewhat the appearance of nicks, about half an inch in length, taken out of the clay with a knife, set closely together in parallel rows. They are shown at the bottom of fig. 31.

There are one or two pieces of the wide shallow basins of thin red ware with the lip curving outward, and ornamented only on the outward curving part of the lip by long-stalked leaves in relief as in fig. 32.

Of the plain cups and beakers, with sloping or bulging sides, there



Fig. 31. Samian Ware fragments found at Castlebury. {1.}

are several sizes, from 3 inches in depth and 5 inches in diameter at the mouth. Some of these with bulging sides have flat or curved projecting ledges round the outside under the brim.

One vessel with a broad-brimmed bottle-neck occurred.

Only three of the beaker class of vessels bore potter's marks.



Fig. 32. Portion of Ornamented Lip of Samian Ware Vessel found at Castlebury. ($\frac{1}{4}$.)

A lamp of Samian ware (fig. 33), which has been long in the Museum, is $5\frac{1}{4}$ inches in diameter, with a nozzle flattened on the top and projecting $1\frac{1}{4}$ inches in front, and a perforated handle $1\frac{1}{2}$ inches in width and rising $1\frac{1}{2}$ inches from the back. The upper surface has a deep concavity with



Fig. 33. Lamp of Samian Ware from Castlebury. ($\frac{1}{4}$.)

the hole for the oil in the centre, and is ornamented round the border with a band of the festoon ornament, without the tassel between the festoons, so common on the Samian ware bowls, and on the bottom the potter's mark J. FABRICMAS. It is said to have been found during the excavations for the railway in 1841.

The unknown author of the description of the Roman wall (along which he walked in 1679) printed in the *Historical Manuscripts*

*Commission Reports*¹ was shown a Roman lamp dug up here by Mr Bayley of Castlebury House. Gordon also mentions a lamp of brass "adorned with variety of engravings" as having been found here, but which he did not himself see.²

Of the shallow basin-shaped vessels of bluish-black ware, with sloping sides, ornamented on the exterior by a network of burnished lines crossing each other diagonally, there are many pieces, but only in a few cases do they go together so far as to show the form and size of the vessel. Three with thickish rims bevelled to the outward side have had a diameter of over 6 inches and a depth of about 4 inches. One of about the same diameter, but shallower, has been mended in four places by clamping the broken pieces together with leaden clamps, two of which are still in place, the others having decayed to such an extent as to leave the holes on each side of the fracture vacant. The jars of the same bluish-black ware similarly ornamented on the exterior are the most numerous of the various forms represented. They are flat-bottomed, with sides sloping upwards to a rounded shoulder, and a rather wide mouth with an everted lip. Some are of an extremely hard bluish-black paste, with a glistening surface, the scored or burnished lines on which form a wide or narrow network, crossing each other diagonally from the shoulder to the bottom. Others are of coarse paste with a rougher surface, inclining to grey, and sometimes to a red colour. Some of these are covered over the exterior surface with a hard coating of soot as if they had been used as culinary vessels. There are a few bottoms of jars from $2\frac{1}{2}$ inches to $3\frac{1}{2}$ inches in diameter of a coarse and friable reddish paste; but though the pieces of the sides show them to have been of the same bulging shape as those of the black ware, there are none that can be reconstructed to show the depth.

A rough hand-made shallow vessel (fig. 34) about $3\frac{1}{2}$ inches in diameter in the bottom, with nearly straight sides half an inch thick and an inch and a half in depth, has three holes in the middle of the bottom placed a

¹ Report No. XIII., Appendix (Portland MSS., vol. B.), p. 57.

² *Ibid.*, Sept., p. 47.

little more than a quarter of an inch apart in the form of a triangle. They are about a quarter of an inch in diameter at the surface and narrow to the bottom, but do not pierce through to the outside. Round them in a circle, about half an inch from the side and half an inch apart, are seven holes of about the same width driven through to the outside. The inner surface of the side of the vessel is divided into panels about an inch or more in width by perpendicular indentations of over an eighth of an inch in width and the same in depth, and in each panel there is a



Fig. 24. Portion of Shallow Vessel of dark ware found at Castleary. [4.]

round hole bored through from the outside to the inside. Those holes are of the same width as those in the bottom of the vessel.

Some pieces of black ware from Castleary, found during the construction of the railway and preserved in the Museum, are portions of the ornate vessels of extremely thin and light fabric which have their sides pinched inwards so as to form indented oval hollows recurring at intervals all round the circumference, and extending from the shoulder to the base, like the one found at Camelon.¹ Another is ornamented with rows of circular spots formed of a dark slip, applied after the burnishing of the surface.

¹ See *Proceedings*, vol. xxxv. p. 338, fig. 18.

Of the coarser soft whitish and greyish ware there are many fragments of amphorae and mortaria of the usual kinds, and two pieces of the finer soft ware are parts of the rather uncommon variety of wide-mouthed jars with straight collars and a frilled projecting ledge round the shoulder. There is also a neck of a bottle-necked jar of soft grey ware with part of the loop-handle remaining, and a fragment of a loop-handle of a larger vessel of soft whitish ware, twisted like a rope.

Of this soft whitish paste there are also pieces of a very thin ware, dark-coloured on both exterior and interior surfaces, the exterior being sometimes plain and sometimes roughened all over with gritty particles sifted to a uniform size and applied with the slip.

Potters' Stamps.—The following is a list of the potters' stamps occurring at Castlecary :—

CINTVSMVS · F

CRACY · F

CVDCYNII

ALBINI · M

AESTIVI · M

PRISCVS · F

L FABRICMAS on the bottom of a lamp.

MMCSV on the handle of an amphora.

None of these stamps have appeared at any of the stations previously excavated, and only two of them occur in the Castlecary list given by Wilson in the *Prehistoric Annals of Scotland*, vol. II, p. 70. It is also noticeable that there are no examples at Castlecary of the Samian bowls of the early period (latter part of first century) like those found at Camelon.

Glass.—The amount of glass recovered was small, and consisted chiefly of portions of bottles of bluish-green glass of the square moulded form so commonly found on Roman sites. One, of which five pieces have been put together showing the shape of the lower part, is $3\frac{1}{2}$ inches square; but only two necks, and none of the reeded handles so character-

istic of these bottles, were found. One portion of a handle 2 inches long by 1 inch in breadth, of a slightly clearer glass, may belong to a different form of vessel.

A portion of a bottle with fluted sides, of clear glass with a slightly greenish tinge, measures 4 inches by 3, showing an indication of the flattened curve of the bottom at one side.

A bottle neck with lip and handle of light-green glass is already in the Museum, having been presented by the Earl of Zetland in 1852.

A portion of a flat rim of a vessel of clear glass, of oval shape, is $3\frac{1}{2}$



Fig. 35. Portion of Clear Glass Vessel found at Castlebury. ($\frac{1}{2}$.)

inches in length and $\frac{3}{4}$ inch in breadth, the glass being fully $\frac{1}{8}$ inch in thickness, and the curve indicating a large circumference. Another small piece of a similar rim seems to belong to a different vessel.

Two pieces of an oval vessel of clear glass, with a moulding above which is a band of clear glass, while below the moulding the surface is obscured by what seems to be the remains of a reddish pigment, also indicate a vessel of considerable circumference and more than 1 inch in depth.

A circular flat-bottomed vessel of thin clear glass (fig. 35), 4 inches in diameter and $2\frac{1}{2}$ inches in height, with straight sides and a slightly everted lip, has a double lathe-ground hollow moulding round the lower part of the side, and a similar single hollow moulding an inch below

the brim, and another immediately underneath the everted lip. A single lathe-ground moulding 2 inches in diameter is on the outside of the flat bottom. The thickness of the glass in the bottom is about $\frac{1}{8}$ -inch, but towards the brim it becomes less than $\frac{1}{16}$ -inch. Portions of similar vessels of thin clear glass with slightly everted lips and lathe-ground hollow mouldings were found at Lyne.

Half a dozen small pieces of flat window-glass of the usual character were found.

A small fragment of a bracelet of greenish glass paste was also found. Fragments of glass bracelets occurred at Camelon.

Two small cubical tessera, one of greenish glass and the other of blue glass, were found in the apsed building, probably indicating the presence of mosaic flooring.

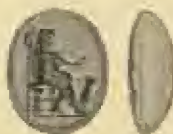


Fig. 36. Intaglio representing Jupiter (?) and eagle, found at Castlecary. (t.)

A small button-shaped disc of black glass, convex on the upper side and slightly concave on the lower side, similar to several discs of different colours which occurred at Camelon, was also found here. These discs are frequently found on Roman sites, and, though their purpose is not definitely known, it has been conjectured that they may have been employed as counters in some game.

An intaglio in clear glass paste, of oval shape, the face convex, and measuring about $\frac{1}{4}$ -inch by $\frac{1}{8}$ -inch, has a figure of a female standing, loosely draped from the waist, and holding in the right hand an apple or pomegranate, and in the left a dish of similar fruit. Though found among the earth thrown out of the excavation, it appears to be modern.

Another intaglio (fig. 36), slightly smaller, and cut in carnelian, repre-

sents Jupiter (*I*) seated, with an eagle standing in front. The style of the cutting leaves no room for doubt of the antiquity of this gem.

Three of the ribbed melon-shaped beads of blue porcelain paste, so commonly found on Roman sites, are respectively $\frac{3}{4}$ -inch, $\frac{1}{2}$ -inch, and $\frac{3}{8}$ -inch in diameter.



Fig. 37. Bronze Tube found at Castlecary. ($\frac{1}{2}$.)

Bronze.—The bronze articles found were few and unimportant. Among them is a tube (fig. 37) rather more than $\frac{1}{2}$ -inch in diameter and 7 inches in length, encircled on the exterior by parallel mouldings, and terminating at one end in a cup-shaped expansion like the mouth-



Fig. 38. Fibulae of Bronze found at Castlecary. ($\frac{1}{2}$.)

piece of a trumpet. The perforation in the centre of the cup-shaped expansion is only $\frac{1}{8}$ -inch in diameter, the diameter of the perforation throughout the tube being fully $\frac{3}{8}$ -inch.

Two fibulae of bronze were found. They are shown in fig. 38. One is $1\frac{3}{4}$ inches in length and the other $1\frac{1}{2}$ inches. Both have the coil of the spring, but the pins are gone.

An oblong rectangular mounting with sides rounded upwards, and a wide hollow moulding on the top flanked by a narrow moulding on either side, and having a round hole about $\frac{5}{16}$ -inch in diameter in the centre, apparently for the fastening nail or stud.

Lead.—A leaden weight, circular, with flattened upper and under sides, much oxidised, weighing 4285.6 grains, or slightly over 9 $\frac{3}{4}$ oz. avoirdupois.

A leaden ring $1\frac{1}{2}$ inches in diameter and $\frac{1}{2}$ -inch in depth, the opening



Fig. 39. Wooden Bung with Bronze Cap and Ring found at Castlecary. ($\frac{1}{2}$.)

1 inch in diameter on the upper side, widening to $1\frac{1}{4}$ inches on the lower side.

A piece of run lead $3\frac{1}{2}$ inches in length, of triangular section, with two projections on the flat side, $1\frac{1}{2}$ inches apart.

Wood.—A rather curious article in wood (fig. 39) is a bung of some kind of coniferous wood, well cut out of the wood across the fibre, and measuring $2\frac{3}{4}$ inches diameter at the top and barely 2 inches across the bottom, and $1\frac{1}{2}$ inches in depth. The top has a well-made cover of bronze, ornamented on the upper side with concentric circles, and fastened to the wood by a loop with a double tang driven through a hole in the centre, and in the loop a bronze ring $\frac{3}{4}$ -inch in diameter.

A spatula, apparently of oak, 9 inches in length, shaped like a cricket-bat but having the handle longer in proportion to the flattened part, was found in the refuse-pit. The other wooden objects are a portion of a rounded stake of hard wood, $7\frac{1}{2}$ inches in length and $1\frac{1}{4}$ inches in diameter, cut to a point with an axe, and partly cut across from both sides at the other end and then broken off; and a piece of a mortised plank of soft wood about $\frac{5}{8}$ -inch in thickness.

Iron.—A considerable number of fragments of iron implements were found, but for the most part in such a condition of oxidation, and so broken, that it is impossible to make out their particular purposes. There were large nails, and holdfasts of various forms and dimensions, and in one case an implement $7\frac{1}{2}$ inches in length, which seems to have been a socketed gouge, with a blade about $1\frac{1}{2}$ inches in width.

Leather.—A quantity of remains of leather shoes, sandals, etc., was recovered from the refuse-pit and the ditch at the east side of the fort. Some of these are soles of large size, the largest $10\frac{3}{4}$ inches in length by 4 inches in greatest breadth, studded with iron nails. Others are sandals with parts of the thongs still attached. One with a smooth soft sole measures $9\frac{1}{4}$ inches in length by 5 inches in greatest width. Others again are so small and slender that they must have been worn by women and children. Some of these are very elaborately ornamented, the upper leathers being cut in open work or stamped with lines of impressions in various ways. One shoe which is sufficiently entire to show the shape is $8\frac{1}{4}$ inches in length, 3 inches across the widest part, and 2 inches across the narrowest, widening to $2\frac{1}{4}$ inches at the heel. The sole has been studded with iron nails or "tackets," thirty of which form a row at equal distances all round the margin. Within this marginal row are other nineteen, arranged not at random but on a systematic scheme. There is a triplet close together in the heel, then a line of three equally spaced along the centre of the narrow part of the sole, another triplet at the commencement of the broad part, and a longish oval with a single one in the centre on the fore part of the sole.



Fig. 40. Shoes and Sandal of Leather found at Castibery. (A.)

Stone.—The only implements of stone met with were two spindle whorls: one a flat disc $1\frac{1}{2}$ inches in diameter and nearly $\frac{1}{4}$ -inch in thickness, flat on its upper and under sides, which are ornamented with radial lines arranged round the central hole, which is $\frac{1}{2}$ -inch in diameter; the other barrel-shaped, about an inch in greatest diameter and $\frac{1}{2}$ -inch in depth, the central hole $\frac{3}{8}$ -inch in diameter.

Several inscribed stones, altars, and tablets are on record as having been found in Castlecary or in its immediate neighbourhood:—

1. An altar, 2 feet 5 inches in height by 1 foot 1 inch square on the base, with a fœtus between two broken volutes on the top, the sides plain, and the front inscribed:—

FORTVNAE
VEXILLA
TIONES
LEG. II. AVG
LEG. VI. VIC
P.S. P.L.L.

“To Fortune; Vexillations of the Second Legion, the August, and the Sixth Legion, the Victorious. . . .”

The letters in the last line are variously read and differently interpreted, but they evidently indicate a mere formula of dedication.

The altar is said to have been discovered about 1770 by the workmen who were making a quarry of the ruins of the fort to supply stones for the Forth and Clyde Canal. The spot where it was found is described as at the east end, where were the foundations of circular buildings. It was presented to the Hunterian Museum, Glasgow, by Sir Laurence Dundas, and is described and figured in Dr James Macdonald's *Account of the Roman Stones in the Hunterian Museum* (1897), p. 73 and Pl. x.; Stuart's *Caledonia Romana* (2nd ed., 1852), p. 345 and Pl. xiv.; Roy's *Military Antiquities*, Pl. xxxix.; Hubner's *Corpus Inscriptionum Latinarum*, vol. vii., No. 1093.

2. An altar of small size, now lost, which was known before 1682, its inscription being given by Christopher Irving in his *Historia Scotice Nomenclatura*, published in Edinburgh on 1st January of that year, as noticed by Alex. Gibb, F.S.A. Scot., in the *Scottish Antiquary*, vol. xv, p. 202. Mr Gibb also quotes a passage from Sir Robert Sibbald's MS. collections in the Advocates' Library, in which he states that his copy of the figure and inscription of the altar in his additions to Gibson's *Camden* (1695), p. 1102, was obtained from the Earl of Perth. He gives a figure of it in his *Historical Inquiries* (1708); he refers to it as "yet to be seen near to Comornald, the residence of the Earl of Wigton"; and in his *History of Linlithgowshire* (1710) he refers to it as "found near to Castle-cary." Horsley (1732) had the stone copied at Culbervauld by permission of the Earl of Wigton; and though he gives the figure in two pieces, and says that it is manifest they are not the same altar, as "the dimensions don't agree," he also mentions that the two pieces evidently give the complete inscription as recorded by Sir Robert Sibbald. Hubner leaves the matter uncertain until the two fragments are again compared with each other. What seems tolerably certain is that the altar (if the two fragments belong to each other) was dedicated to the Deæ Matres by a vexillation of Brittones in the twentieth legion.

It is described in Sibbald's additions to Gibson's *Camden*, with a figure, p. 1102; in Horsley's *Brittania Romana* (Scotland, figs. xx. and xxi.); and in Hubner's *Corpus Inscript. Lat.*, vol. vii. No. 1094.

3. An altar of freestone, 20 inches in height by $9\frac{1}{2}$ inches square at the base, was found to the westward of Castlecary in 1841, and preserved by the late Mr John Buchanan. The place where it was found is not indicated more exactly than by the statement in Stuart's *Caledonia Romana*, that it was found "not far from the spot where the wheat was found in 1771." This discovery of "nearly a hundred quarters of wheat quite charred and black" is described as having been made in the year mentioned, "to the west of the station and immediately beyond the highway to Stirling."

This altar is now in the National Museum (*Proceedings*, vol. xxvii. p. 8). The inscription seems to have been tampered with, the letters being subsequently painted black :—

DEO
MERCVRIO
MILITES · LEG · VI
VICTRICIS · PIE · F
ED · ET · SIGILLW
CIVES · ITALICI
ET · NORICI
V · S · L · L · M

This altar has been described and figured by Stuart (*Caledonia Romana*, p. 349 and Pl. xiv.), who has some variations from the above transcription. It is also described by Hubner (*Corpus Inscript. Lat.*, vol. vii. No. 1095).

4. An altar, 34 inches in height, the inscription much defaced. It was found in a thicket, choked with briars, close to the rivulet called the Red Burn, which flows past the fort. The inscription cannot be read with certainty, but the dedication is presumed to be to the god Silvanus.

This altar was formerly in the possession of the late Mr John Buchanan, and is now in the National Museum (*Proceedings*, vol. xxviii. p. 8). It has been described and figured by Stuart (*Caledonia Romana*, p. 350 and Pl. xiv. fig. 2), and is described by Hubner (*Corpus Inscript. Lat.*, vol. vii. No. 1096).

5. The upper part of an altar, $15\frac{1}{2}$ inches in height, $11\frac{1}{2}$ inches in breadth, and 8 inches in thickness, with patera and volutes on the top, presented to the Hunterian Museum, Glasgow, in 1771, by Sir Laurence Dundas. It is said to have been found at Castlebary by the workmen employed on the Union Canal. All that remains of the inscription is the first word, DEAE.

It is described and figured in Dr James Macdonald's *Roman Stones in the Hunterian Museum*, p. 75 and Pl. xi. fig. 2; in Stuart's *Caledonia Romana*, p. 345 and Pl. xiv. fig. 9; and is described by Hubner (*Corpus Inscript. Lat.*, vol. vii. No. 1097).

6. The lower part of an altar, containing only the initial letters which form the customary formula recording a vow paid cheerfully.

It is described and figured by Gordon, p. 57 and Pl. x.; Horsley, p. 202 and (Scotland) Pl. xxiii.; Stuart (*Caledonia Romana*), p. 346, Pl. xiv. fig. 7; and Hubner (*Corpus Inscript. Lat.*, vol. vii. No. 1098).

7. The lower part of an altar, bearing the letters H BAT, seen by Gordon at Castlecary. Horsley did not see it in Baron Clerk's collection, though it is stated by Mr Gibb in the *Scottish Antiquary*, on the authority of the *Bib. Top. Brit.*, vol. iii., that Sir John Clerk had it in 1726.

A figure of it is given in Nicholl's *Topographia Britannica*, vol. iii. p. 239.

8. The upper part of an altar with three lines of an inscription of which only the words MILITES VEX III are given as legible.

It is described and figured by Gordon (*Iter.*, p. 57 and Pl. xv.) and by Stuart (*Cal. Rom.*, p. 346 and Pl. xiv.)

9. A slab measuring 3 feet 6 inches by 1 foot 9 inches, found on the wall near Castlecary, is inscribed within a triple moulding:—

IMP. CAES. T. AEL. ANT
AVG. PIO. P. P.
COH · I · TVNGRO
RVM FECIT ∞

It is preserved in the Hunterian Museum and described and figured by Dr Macdonald (*Roman Stones*, p. 72 and Pl. xi.), and also by Stuart (*Cal. Rom.*, p. 347 and Pl. xv.) and by Hubner (*Corpus Inscript. Lat.*, vol. vii. No. 1099).

MONDAY, 11th May 1903.

ROBERT MUNRO, M.D., LL.D., Vice-President, in the Chair.

A Ballot having been taken, the following were duly elected Fellows :—

A. ORR DEAR, Advocate, 7 Forth Street.

JOHN MACPHERSON GRANT, Yr. of Ballindalloch.

WILLIAM DE B. GREENWOOD, Barrister-at-Law, Croylands, Isleworth.

ALEXANDER PARK, Ingleside, Leuzie.

CHARLES TAYLOR, 5 Park Drive, Partick, Glasgow.

The following articles and books acquired by the Purchase Committee for the Museum and Library during the Session, 30th November 1902 to 4th May 1903, were exhibited :—

Double-action Pair of Candle-Snuffers, with Brush.

Communion Cup, in pewter, of the Relief Church in Aberdeen, 1801.

Two Bobbins, two Tokens, Steel Seal, Steel Strike-light, and Wooden Cup from Bargarran, Ayrshire.

Stone Axe (much weathered) from Urquhart, Elginshire.

Flint Implements, viz :—A Fabricator, a Borer, a long Scraper, and a Side-scraper, from Urquhart, Elginshire.

A four-sided Burnisher of Quartzite, from Urquhart, Elginshire.

A Collection of Antiquities, consisting of 230 specimens, and containing (among others) the following :—

A fine Celtic Penannular Brooch of Bronze, ornamented with interlaced work in panels and gilt, from the Island of Mull; six Stone Axes, an Axe-Hammer, four rude Stone Implements, two polished Stone Knives, two Whetstones, a Smoothing Stone, Clay Loom-weight, Spindle and three Whorls, and two Steatite Vessels, from Shetland; Stone Axe and three Smoothing Stones, from Berwickshire; Stone Axe (broken

and with grooves), from Burntisland; Axe of Felstone, from Callernish; perforated Stone Hammer, from Wigtownshire; four Flint Arrowheads and many Flint Implements, from Slains; Flint Implements, from Boddam, near Peterhead; Flint Flakes and Cores, from Prestwick; four Flint Arrow-heads, from Troon; seven Flint Arrow-heads (Scottish); portion of Iron and Bronze Blade, from Salen, Mull; Bronze flat Axe, from Glenforsa, Mull; two leaf-shaped and two rapier-shaped Bronze Swords, from Midlothian; rapier-shaped Bronze Sword, from Berwickshire; Jet Ring, from Cist at Craigiehall; Bronze Pot, from Kinross; Joust, from the Church of Killeoman; Pin (made of a sheep's trotter) for roofing slate, from Annan; Charm Stone, from Greta.

Books for the Library:—

Gregorson Campbell's *Witchcraft and Second Sight in the Highlands, and Superstitions of the Highlands*; Wakeman's *Handbook of Irish Antiquities*; Westropp's *Ancient Forts of Ireland*; Robley's *Maori Tattooing*; *Transactions of the Gaelic Society of Inverness*, vols. 12, 13, 14; Best's *Translation of Jubainville's Celtic Mythology*; Metcalfe's *Charters and Documents relating to the Burgh of Paisley*; *Corpus Inscriptionum Latinarum*, vol. 6, part iv., fasc. 1; *Promptorium Parvulorum*; *Survey of the Antonine Wall*; Maclean's *Lectures on Celtic Manuscripts*; *Der Hildesheimer Silberfund*; *Memoirs of Delvine*; Bicknell's *Prehistoric Rock Engravings in the Italian Maritime Alps*; Pratt's *Buchan*; Leyden's *Tour in the Highlands*; *Records of Woolwich*; Naue's *Die Vorrömischen Schwerter*; Ward's *Roman Fort of Gellygner*; Quatrefages and Hamy's *Crania Ethnica*; Marquis of Bute's *Scottish Coronations*; Macpherson's *Church and Social Life in the Highlands*; Terry's *Young Pretender, Jacobite Movement, 1701-20, and Rising of 1745*; Horsley's *Britannia Romana*; Chalmers's *Caledonia* (index volume); Hodinger's *Neue Ausgrabungen auf der Schwabischen Alb*; Jamieson's *Scottish Royal Palaces*.

There were also exhibited:—

(1) By Miss E. HARCUS, Scalloway, Shetland.

Photograph of a Gold Bracelet of plaited wires, found some years ago in Shetland.

Miss Marcus supplies the following information relative to the finding of this gold ornament:—

"The print has been taken from a negative obtained by a brother of mine who is now dead, therefore I am unable to give you all particulars.



Fig. 1. Gold Bracelet of plaited wires found in Shetland.

I saw the bracelet, and had it on, so that I can say it was gold, and not less than three inches in diameter. It was found in one of the islands near here by someone cutting peat, not far from the surface, near the bank of the sea-shore; and no other remains of any kind were found beside it. I am unable to say who the finder was, or what became of it. A gentleman offered to buy it at that time—three or four years ago—but the finder would not part with it, as, I think, he wanted a bigger price."

The record of this find is important, as it is the only example of the occurrence of a gold ornament of this type in the northern isles. Silver

ornaments of plaited wires in the shape of neck-rings and armlets have been found in Orkney, but the only similar ornaments of gold hitherto met with have been plaited rings of a size suitable only as finger rings. All these ornaments of plaited wires of gold or silver appear to belong to the Viking period.

(2) By HARRY F. YOUNG, Cairnbanno, New Deer, Aberdeenshire.

Parcel of split Nodules and partially-worked Flakes of Flint, found together in a small pit in the sub-soil at Hindstones, Parish of Tyrie.



Fig. 2. Portion of slab of Sandstone with Ogham Inscription from Cunningsburgh, Shetland. Scale, $\frac{1}{4}$ linear.

(3) By GILBERT GORDIE, F.S.A. Scot.

Slab of micaceous Sandstone, 20 inches in length, by 10 inches in breadth, and $2\frac{1}{2}$ inches in thickness, and having on one face portions of three lines of an Ogham Inscription, from Cunningsburgh, Shetland.

Mr Gordie is informed by Mr James M. Gordie, Montfield, Lerwick, from whom he received the stone, that it was recently noticed by Mr Laurence Matheson, Flanderstown, when attending a funeral in Cunningsburgh Churchyard, and removed by him to his house for preservation. It had been found by the grave-digger when digging a

grave in the middle of the old kirk, the site of which can still be traced within the churchyard.

The stone, as it now exists (fig. 2), is only a small portion of a slab which, when complete, had three lines of an Ogham Inscription running parallel to each other and to the unbroken sides of the slab, of which only a few inches remain. As no more than five or six letters remain in each line, and it is uncertain in which direction they are to be taken, there is no intelligible reading to be made of the inscription.

(4) By T. WATSON GREIG of Glencarse, F.S.A. Scot.

A Norwegian peg-tankard of wood, the pegs being round black marks placed in a vertical row on the inside at a distance of an inch apart. The body of the tankard is $4\frac{1}{2}$ inches in depth, and $3\frac{1}{2}$ inches in diameter. A loop handle projects $2\frac{1}{2}$ inches at the side and curves from top to bottom of the vessel. At the top is a hinge for the cover, which is ornamented with a round ivory plaque, $1\frac{1}{2}$ inches in diameter, let into the centre of the lid and surrounded with a rope-moulding in brass. Between the hinge and the plaque is a carved lion *sejant* which does duty as a handle to pull up the lid. The tankard stands on three feet, each with bird's claws grasping a bull. Mr Watson Greig has also an English peg-tankard of silver of about the same size, which is graduated by real pegs instead of marks.

The following Communications were read :—

I.

NOTICE OF THE EXCAVATION OF A CHAMBERED MOUND NEAR
BRECKNESS, STROMNESS, ORKNEY. BY M. M. CHARLSON, F.S.A.
Scot.

In the summer of 1900, by the kind permission of W. G. T. Watt, Esq. of Skaill, I commenced the excavation of a large mound on the farm of Westerleafea, near Breckness in Outertown, Stromness.

There was no room for doubt as to the artificiality of the mound, which, apart from its symmetry and surroundings, had previously supplied a neighbouring farmer with a quantity of material for building purposes, these operations, more properly depredations, leaving a gap on the south side of the mound in which several upright slabs of some size were noticeable. At this point we began the excavation, and before long struck a low wall between two upright slabs which projected from it and which were 6 feet apart. In the middle of this wall, that is, between the two upright slabs, an opening was found, and this led to a passage running inwardly for a few feet, and roofed over with large transverse slabs. At the inner end of this passage, the interior wall branched sharply to right and left, and in following it up on the right we found that it extended first in an easterly and then in a northerly and westerly direction, ending in a large recess which subsequently proved to be of equal height with the wall exposed. The outline of the structure being thus far laid bare, the excavation was carried on in a downward direction, beginning at the entrance. At a depth of 5 feet from the surface of the mound a floor was discovered, together with a lateral recess off the east side of the building. This floor, however, proved to be secondary, for, at a depth of a foot, another and evidently primary one was found, the debris between the two consisting of black unctuous earth intermixed with animal remains. Almost in line with, and 4 feet from, the entrance we noticed a large slab on the floor, which, on being raised, revealed a square-built cavity full of black earth, having a single

slab for its base. The recess on the east side was next cleared of its contents, consisting of black earth reduced to the consistency of mud, and animal remains, few of which survived handling. Contrary to expectation, this recess extended downwards beneath the level of the floor and diverged in a north-easterly direction from the axis of the chamber, while the back wall was acutely constricted in the middle of its length. The walls of the recess converged towards the top, which was formed of slabs laid across, and near which its width was reduced to about one half by the breadth of the lintel and the thickness of the superincum-



Fig. 1. Pottery found in the chamber of the mound at Breckness.

bent masonry. In the recess off the north side of the chamber were found a fragment of rude pottery, evidently part of the base of a vessel (fig. 1) and the tine of a deer-horn. The walls of the chamber and recess last mentioned were beehive in form and dry built, the lower portions of the former being here and there formed of slabs set on edge and resting on the floor. The walls of the recess, it may be added, showed traces of the action of fire.

At this point the excavation had to be abandoned, and was not resumed until the summer of 1902, when we exhumed the wall on the west side, beginning, as before, at the entrance, from which it diverged to the west for a few feet, with an inward tendency, and then trended to the north and east until it joined the recess off the north side of the chamber at

the point where the excavation had been stopped in 1900. The remaining debris was then removed, together with the secondary floor, the primary one being also raised, but without revealing relics of any kind. The wall on this side showed no traces of convergence.

The chamber being now cleared of its contents, which consisted throughout of compacted earth intermixed with stones, we found that it took the form of an irregular square with a passage and recesses off the south, east and north sides respectively. The extreme length from north to south was 9 feet, and from east to west 9 feet 10 inches, the greatest height being 5 feet. The entrance passage, the floor of which was paved and which faced the south, measured 4 feet in length, $1\frac{1}{2}$ feet in height and $1\frac{1}{2}$ in breadth. The recess on the east side was about $5\frac{1}{2}$ feet from top to bottom, about 3 feet in greatest length and breadth respectively, and 2 feet square at the opening, while that off the north side measured $3\frac{1}{2}$ feet in length and $4\frac{1}{2}$ feet in breadth. The cavity in the centre of the chamber was about $1\frac{1}{2}$ feet each way and 1 foot in depth.

But the excavation was not finished. We concluded that the chamber brought to light did not exhaust so large a mound, although no trace of any passage which might lead to other chambers could be found. Accordingly, we cut trenches at different points, and were rewarded for our trouble by unearthing a wall which ran almost parallel with that on the west side of the chamber already discovered, and which, on being followed up to the north, led to a recess similar to that which distinguished the north side of the other building, with this difference, that there was a depression in the angle leading to it, together with another in its east side, the former extending the full height of the wall and the latter having a lintel 6 inches from the floor; thereafter the wall trended to the west, south and east, being broken on the south side by the entrance passage, which, together with the chamber itself and the lateral recess on the north side, were afterwards cleared, but without revealing any animal remains, relics, or

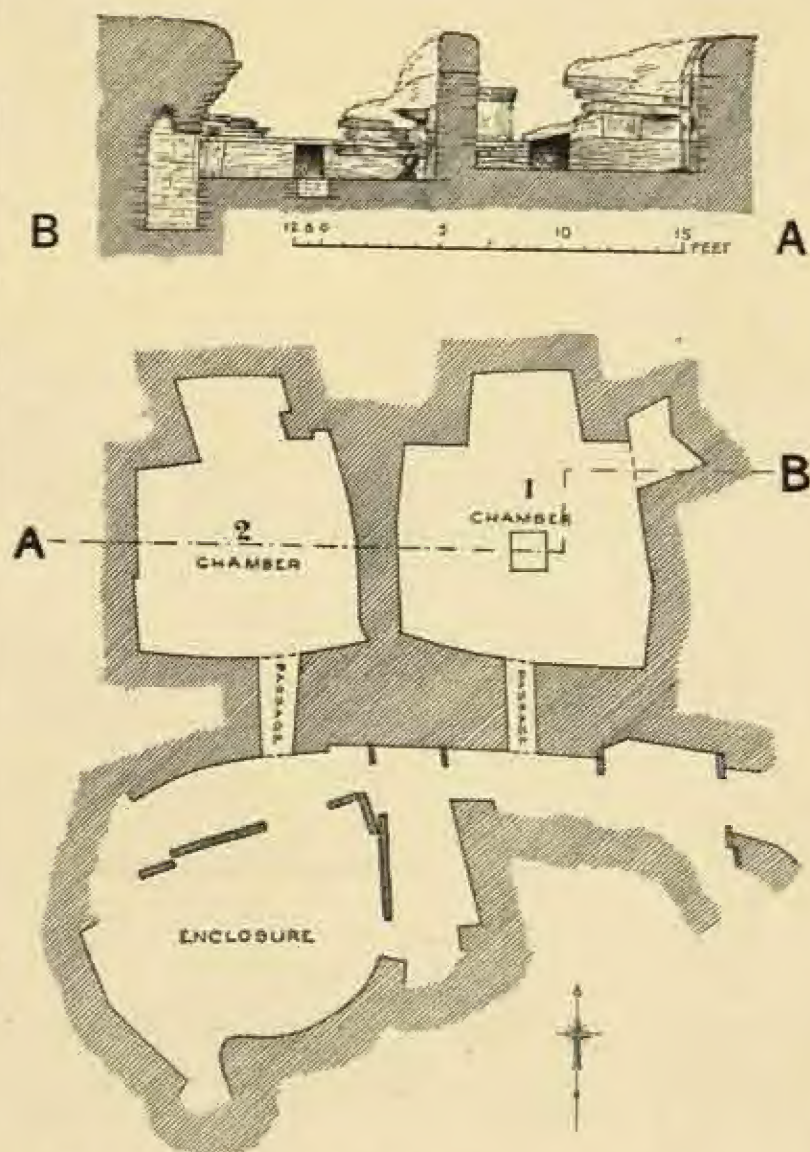


Fig. 2. Ground Plan and Section of chambers in the mound at Brockness.

traces of a secondary floor: even the raising of what floor there was produced the same negative results.

We had now a chamber closely resembling the one already brought to light, so closely indeed as to make the resemblance striking, and it wanted only the addition in the second instance of a lateral recess and floor cavity to bring the two into the category of twins. The wall on the east side, it may be said, showed traces of convergence as well as the walls of the northerly recess, which bore evidence of the action of fire. The wall, however, on the west side, like the corresponding one in the other chamber, did not assume the beehive form, the converging portion, no doubt, having given way, while the wall on the south side fell away considerably from the perpendicular, to the extent, I should say, of 45° at the top. As in the other case also, the lower sections of the walls at several points were constructed of slabs set on edge, a practice adopted evidently to economise labour, if not material. In length the chamber measured 8 feet, in breadth 9 feet, and in greatest height about 4 feet, while the entrance passage was 4 feet in length, from $1\frac{1}{2}$ to 2 feet in breadth, which increased inwardly, and fully 1 foot in height. The recess off the north side measured $3\frac{1}{2}$ feet in greatest length, about 4 feet in width, not including that of the depression, which was 6 inches. The height of this recess, as has been said, corresponded with that of the adjacent wall.

The exterior wall facing the south was then exposed, giving a frontage of fully 26 feet. It curved outwardly at the west end, and at a distance of 7 feet from the eastern extremity it formed into a recess which, with the assistance of projecting slabs, had at the ends a width of 2 feet, the length being $4\frac{1}{2}$ feet and the height 2 feet. The section of the wall forming this recess converged and was indented in this length. Two other slabs 2 feet in height, 1 foot broad, and 4 feet apart, projected from the wall between the entrance to the chambers. There were four slabs projecting from the exterior wall, the two in the middle being noted at the commencement of the excavation in 1900.

The whole area comprising the south side of the mound was next examined with interesting results, a low irregular wall somewhat circular in outline and with an opening in the middle being found to extend from a point about 6 feet from the west end of the front wall to within 9 feet of its centre, while within the enclosure thus formed, about 3 feet from the front wall and almost parallel with it, were four large slabs set on edge and about 2 feet in height, there being a break of 3 feet between them opposite the entrance to the chamber last excavated. From the easterly end of this line of slabs also two others of equal height extended outwardly towards the end of the circular wall already referred to, leaving a space 2 feet wide between the two. A little to



Fig. 3. Rude Implement of Claystone from the enclosure in front of the chamber in the mound at Breckness.

the east of the enclosure referred to we unearthed a segment of a wall lying about north and south and 3 feet from the front wall of the structures, while to the east of that again were two upright slabs in line with and 2 feet from the projecting slab forming the east end of the recess in the front wall. We found that the whole area was paved. In excavating the enclosure a fragment of rude pottery (shown on the left of fig. 1, p. 353), evidently part of a straight-lipped vessel, was found, together with a rude implement of claystone (fig. 3), measuring $12\frac{1}{2}$ inches in length, about 3 inches broad, and $1\frac{1}{2}$ inches thick; one end was truncated and the other bevelled from both sides and slightly rounded. The stones forming the floor of the enclosed area were lifted, but no additional relics were found.

On the west side of the mound was a depression, $2\frac{1}{2}$ feet by $1\frac{1}{2}$ feet, with slabs forming the sides and ends; but as it was opened some time before I began the excavation I can give no account of it beyond recording its existence, and the statement made to me that it had been a cist.

It will, I think, be seen from the foregoing description that although the chambers excavated bear some resemblance to those structures occasionally met with in Orkney, which have been regarded as sepulchral, and are distinguished by a dry built chamber on the beehive principle, a passage leading to it, and one or more lateral cells, the present group must, I think, be regarded as dwellings. There is an entire absence of human remains, the bones found being those of animals, including the skull of a dog. The relics, although meagre, are interesting, and point clearly to human occupation, but apart from this the features of the chambers themselves are such as to lead one to the same conclusion. In the case of the chamber first excavated, the recess off the east side might have been a well; and in this connection I may say, that on the occasion of a recent visit I observed it to be full of water, while that on the north side of this chamber, to judge by the condition of the walls, had evidently been used as a fireplace. The cavity in the floor also seems significant, but the use to which it might have been put is not apparent. The other chamber also, to judge by the traces of fire in its northerly recess, had a fireplace. The entrance passages are low and narrow, and one would think unsuitable for giving free access to the chambers. No doubt they are so, if we consider them in relation to the requirements of the present day.

One is at a loss what to make of the enclosure fronting the chambers. Had the outworks been complete, a theory might have been suggested, but unfortunately they suffered considerably from the operations referred to in the beginning of the paper. As to the age of the structures we cannot even hazard a guess, although from the presence of the stone implement they must be assigned to a remote period, not, it should be

remembered, because the implement is made of *stone*, but because the *type* is an ancient one. The implement, however, cannot be taken as giving an adequate idea of the culture of these mound dwellers, nor can the pottery aid us in this matter. We must rather take the chambers themselves as the criterion, and in doing so we come to the conclusion that, although built on a definite plan, with great uniformity and some ingenuity, the civilisation of the builders was not of a high order; but however this may be, they were keenly alive to their personal safety, the dwellings being constructed in such a way as to be easily defended from the inside, while, in selecting a site, they took care that they had a good view of the surrounding country and of the not far distant sea.

I am much indebted to Mr Watt for having allowed me to make the excavation; to Mr George Ellison, Liverpool, for the plan and section of the chambers; and to Mr David MacRitchie, F.S.A. Scot., for the assistance which he rendered me during the progress of the work.

II.

NOTICES OF THREE STONE FORTS IN KINTYRE. By
JOHN FLEMING.

The fort marked on the Ordnance Survey Map at Sròn Uamha, and which a local shepherd tells me was known as Rhu Varkie or Mharkie, is

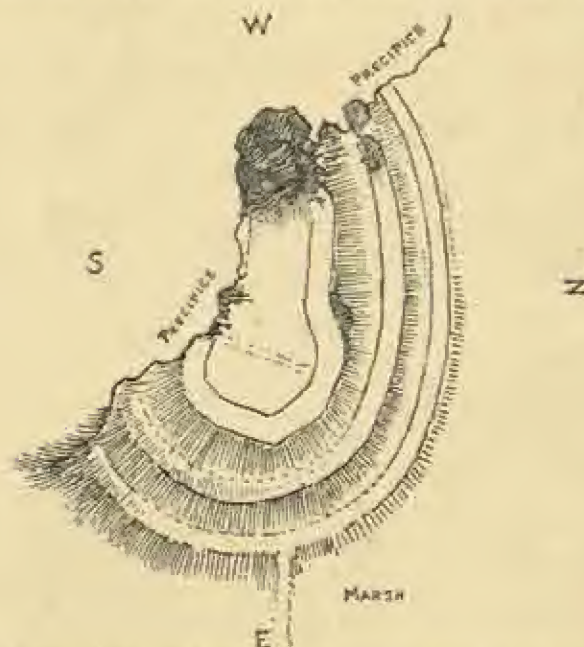


Fig. 1. Ground Plan of the Fort, Rhu Varkie, at Sròn Uamha, Kintyre.

situated on a prominent rock on the hill side about 400 feet above sea level and close to the most southern point in Kintyre. It commands a magnificent prospect of the sea, with the coasts of Ireland and the island of Rathlin as well as the coast of Ayrshire, Ailsa Craig and Sanda.

The natural situation is strong, although it is overlooked by higher ground. On two sides (as shown in the ground plan, fig. 1) the fort is

protected by a precipice and very steep ground falling to the sea, and on the other sides, viz., east and north (figs. 2 and 3), there are three



Fig. 2. Rhu Varkie from the East, showing the three walls.



Fig. 3. Rhu Varkie from the North, showing walls.

strong dry stone walls. The inner wall encloses an irregular space of from 30 to 45 feet wide by about 80 feet long; at the west end of this enclosure the rock rises to a prominent summit, and on the east the

ground descends in a terraced slope. The inner wall is from 9 to 12 feet in thickness and stands upon a higher level than the others. It is about 150 feet long from the high rock round to the precipice. The space between it and the middle wall varies from 15 feet to about 25 feet. The middle wall is 6 feet thick, and a considerable part of it still stands, to a height of nearly 6 feet. It measures from end to end



Fig. 4.—Rhu Varkie, from the North-West, showing relative position and height of the walls.

along the outer side 315 feet; between it and the outer wall there is a space of about 10 feet. The outer wall, which is on a lower level, has been built of rather larger stones. It is 5 feet thick, and is well defined, although more broken down. At the eastern end of the structure the ground slopes in such a way that the walls appear as terraces round to the edge of the precipice, the spaces between them being filled in with debris and forming one continuous slope. There

is no trace of any doorway, but the entrance may have been at the end of the wall overlooking the precipice. In the inner enclosed space there are traces of foundations chiefly at the eastern end, also remains of a parapet wall. The photographs (figs. 4 and 5) show the general appearance of the fort, and also the character of the masonry.

There is a smaller structure within sight of this one, and about a



Fig. 5.—Rhu Yackie, showing masonry of the middle and exterior walls.

quarter of a mile to the east; it is nearly circular, being about 50 by 45 feet over all, and 150 feet in circumference outside measurement. The wall is 5 to 6 feet in thickness, the outer facing stones of which are clear, but the inner face is not well defined. The doorway appears to have been on the north side looking to the hill. This situation is not one of any particular strength; it is overlooked by higher ground, and does not command such an extensive view as the larger fort. The coast in the neighbourhood of these forts is very rough and steep,

and there are no places near where boats could find harbour or shelter.

I also visited the west side of the Mull and saw there the forts marked on the Ordnance Survey Map. I send a photograph (fig. 6) of one situated about 2 miles north of the lighthouse, near to an old homestead known as Inian Doonan. It is on a naturally strong position near the sea, strengthened by stone walls; little of these are left, and only the foundations can be traced.



Fig. 6. Fort near Inian Doonan.

There is another ancient structure further north on the point named Rudh' a' Mhamjela on the map, a photograph of which (fig. 7) I also send. It is very ruinous and is buried in its own debris; outside of the larger mound there are three small circular foundations. This structure is about 400 feet above the sea and commands an extensive view. It is near to the ruins of another old place called Inian Beach. The steep hillsides forming the coasts of the Meile are green and afford good grazing, and although now deserted there are many ruins of old clachans where the earlier highland population found a meagre subsistence, and where in the smuggling days they carried on their operations without much fear of the cuttersman. On some future occasion I hope to examine more of the old forts in Kintyre.



Fig. 7. - Fort on Radli' a' Mharacho, with circular foundation in the hollow to the right.

III.

NOTE ON A GROUP OF SMALL BURIAL CAIRNS AT HINDSTONES, IN THE PARISH OF TYRIE, ABERDEENSHIRE. BY HARRY F. YOUNG.

On the farm of Hindstones, in the parish of Tyrie, on a piece of waste land, which I and my brother broke into cultivation, there was a group of little cairns of stone, fifteen in number. They were of an oblong shape, and contained about two cart loads each of ice-worn pebbles from one up to twenty pounds weight. Such stones are very thick on the surrounding surface. I learned from older men who broke up the surrounding land that there were many more of these little cairns, and that they were formerly covered over with a deposit of moss six feet deep, which had now been cut up and used for fuel. There was no regularity in the positions of the cairns, and the fifteen of which I write were on a piece of land measuring 80 yards broad by 100 yards long. My brother and I thought the cairns were of ancient origin—being so near where many "Piets' houses" are. We were very particular when removing the stones to look for any human remains or flints. Arrow and lance points have been found in the district, a good collection of which I have got by me; but we found nothing in the cairns that I could identify as human remains or human workmanship. Below and around the stones that rested on the subsoil there was a very fine black deposit that we puzzled over for a long time and inspected several samples of from each cairn. The conclusion we arrived at was that it consisted of very fine particles of black moss washed down through the stones by water and deposited on the surface of the subsoil. Another thing I observed was that in the subsoil surrounding the cairns there was a very hard ferruginous pan very difficult to break up. But under the cairns the pan was gone; we dug this up to a depth of 18 inches, but it showed no signs of having been disturbed before. In breaking up another bit of moorland about three hundred yards distant from the cairns, the plough turned up a flint flake, which, after investigating a bit, I found

to be but one of a large collection. There had been a hole scooped out of the red subsoil over one foot deep, into which at least a peek of flint flakes had been put, varying in size from the breadth and thickness of your hand down to little bits half an inch broad. None of these flakes showed marks of being chipped further than being broken from larger pieces. I have this lot of flints by me still, and have sent a representative selection of the flakes for exhibition. These flints must have been carried thirty miles, that being the nearest native flint that I know of, namely, on the hill of Cruden. This lot of flints was found quite near where one Picts' circle is preserved by a dyke erected by the proprietor. Another circle is on an unreclaimed piece of moor. There is only a little bit left of what was the largest circle (fifty feet diameter) in the group or village. I can call it by no other name—there were so many circles quite near each other.

IV.

NOTE ON A SMALL HOARD OF GOLD COINS FOUND RECENTLY IN GLASGOW. By GEORGE MACDONALD, M.A., CURATOR OF COINS.

On 18th October 1902, a small hoard of gold coins was discovered by some workmen who were engaged in preparing the ground for a new building which is being erected at the corner of High Street and Duke Street, Glasgow, for the Glasgow Improvement Trust. The foundations of former tenements had to be dug out, and it was in the course of these operations that the hoard came to light. The coins are said to have been lying loose in the earth, but their condition shows that they must have been protected originally,—in all probability by a bag or purse. The exact number of pieces found is not quite certain. There would appear to have been eighteen or nineteen. The labourers who made the discovery lost no time in disposing of the treasure that luck had sent them. Fortunately, Mr W. U. Muir, the master of works at the building, heard of the matter a day or two later. With his assistance the Crown authorities

were able to recover thirteen gold pieces, which have been forwarded from the Exchequer for examination. Of these thirteen, five are Scottish, while the remainder belong to different countries of south-western Europe. The detailed analysis which follows indicates that the deposit was made in the latter half of the sixteenth century. The five Scottish coins have been retained for the Museum.

SCOTTISH COINS.

James III. (1460-1488)

Unicorn [= Burns, p. 153, No. 7] Wt. 57.6 1

James IV. (1488-1513)

Unicorn [= Burns, p. 185, No. 1] Wt. 57 1

Unicorn [Unpublished Variety] Wt. 54.3 1


Mary (1542-1558)

2 Abbey Crowns [= Burns, p. 284, No. 31.] Wts. 52.7

and 52.1 2

5

The most interesting of the Scottish pieces is the second of the two unicorns of James IV, which, except that it is slightly clipped, is in fine condition, and appears to be unpublished. It belongs to the second issue (*cf.* Burns, p. 189, viii). The inscription on both sides is in Roman letters; the words on the obverse seem to be divided by fleure-de-lis and by stars of five points; those on the reverse are divided by stars of five points.

Obv.  · IACOBVS · 4 · DEI · GRĀ · REX · SCOTOR · VM ·

Rev. · EXVRGĀT · DES · ET · DISIPENT · INIMICI · E ·

On the obverse the points (if any) that precede and follow the 4 have been carried away by the clipping. There is no chain or ring below the unicorn.

FOREIGN COINS.

Francis I. of France (1515-1547)	
<i>Écu au soleil</i> : two varieties (Wts. 52.7 and 52.5)	2
Joanna and Charles I. of Spain (1516-1555)	
<i>Escudo d'oro</i> : three varieties (Wts. 52, 52, and 50.5)	3
Charles I. of Spain, Naples and Sicily, as Emperor Charles V. (1519-1556)	
<i>Ducato d'oro</i> (Wt. 51.2)	1
John III. of Portugal (1521-1557)	
<i>Cruzado</i> (Wt. 53.3)	1
Ottavio Farnese, second Duke of Parma	
<i>Scudo d'oro</i> , dated 1556 (Wt. 50.5)	1
	<hr/> 8

According to the depositions made to the Crown authorities, three silver coins were found "about the same place," and there have been submitted by the Exchequer for examination three pieces which are alleged to have formed part of the hoard. It is possible that these may have been picked up near the spot, but they can have had no connection with the gold coins. One of them is a sadly defaced sixpence of Victoria. A second is a shilling, probably of George I., so completely worn as to make certain identification impossible. The third is a bronze trade token, with date 1790, modelled on the spade-guinea of George III., and bearing the name of Hockley (of Birmingham?).

IV.

REPORT ON THE EXCAVATION OF PREHISTORIC PILE-STRUCTURES
IN PITS IN WIGTOWNSHIRE. By LUDOVIC MACLELLAN MANN,
F.S.A. Scot.

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SECTION I.—GENERAL DESCRIPTION OF THE SITES BEFORE AND DURING EXCAVATION.

I have to report the discovery, by Mr A. Beckett, of some early inhabited sites at Stoneykirk, Wigtownshire.

In carrying out the exploration, great assistance has been given by Mr Beckett. The co-operation of Mr J. Graham Callander, F.S.A. Scot., has been invaluable. Mr Callander repeatedly inspected the sites. Dr David Murray and Dr Joseph Anderson have been kind enough to read proofs of this Report and to make valuable suggestions. I have been so fortunate as to secure the services of Mr Fred. R. Coles, who has put the original sketches and plans into suitable form for the illustrations, and the assistance of Mr Robert A. McGilvray, Glasgow, who has made casts in plaster of some of the wood-work which bore traces of axe-work. I am indebted to Mr Richard M'Kay, Glasgow, who examined some of the wood charcoal recovered, and to Mr H. F. Tagg, Edinburgh, who has reported upon the nature of the wood used in the building of the pile-structures.

Mr Beckett's attention was attracted by a row of depressions on the surface of a wooded area. If there had been one depression only, probably no notice would have been taken of the place. The depressions, however, are five in number. Some of them were dug into, and discovered to be the tops of silted pits containing relics of an early period and substructures of wood. Before excavation they were shallow, basin-shaped, slightly oval in outline, but not very clearly defined and scarcely noticeable. The greatest depth at the centre of any one was about 1 foot, and the greatest area about 10 feet by 8 feet.

The sites as shown in the plan (fig. 1) are situated on the edge of a plateau. The ground has apparently never been cultivated, and is covered by wild vegetation consisting of a few small trees of different kinds and a growth of fern. The row of depressions almost coincides with the 50-foot contour line. The area enclosed by the contour line does not at any point rise more than 2 or 3 feet above the 50-foot elevation. The sea at its nearest point is just 1000 yards distant

south-east from the sites, and the intervening stretch of country is flat and low-lying. While portions of the surrounding country were once marshy, the ancient settlement being on the higher portion of the plantation could not have been surrounded by water or swamp, nor could it have been on the edge of a water-covered area.

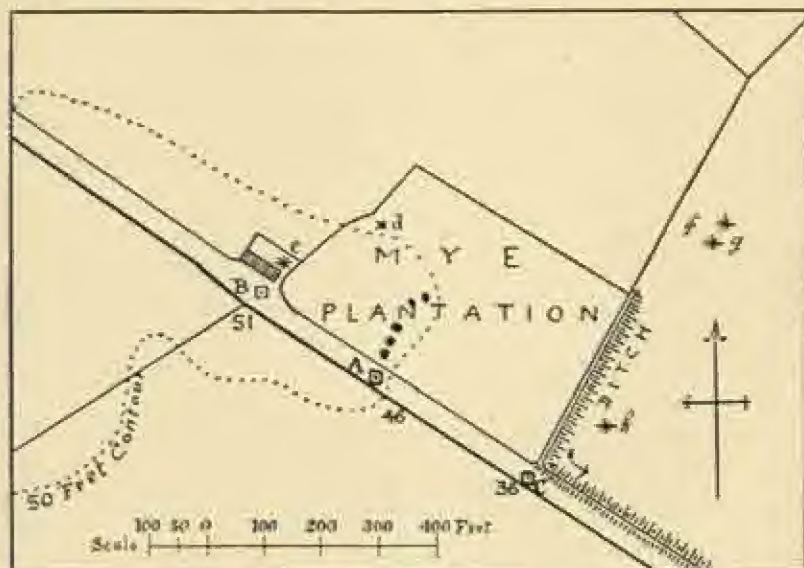


Fig. 1. Plan of the locality of the Piled Pits.

An enlarged plan showing the relative positions of the sites is given in fig. 2.

The sites have been numbered for convenience 1 to 5, beginning at the south-west end of the row. Only Nos. 1, 3, and 5 have been examined.

The row of depressions formed a slightly irregular crescent, with the concave side facing south-east. More exactly, a line from No. 1 to 3 (fig. 2) bore 10° south of south-west (mag.), and a line from 3 through 4 to 5 lay exactly north-east and south-west (mag.).

As shown in fig. 2, site No. 1 is 44 feet 2 inches from a point in the middle of the road marked A on the plan. The measurements taken

from the centre of one depression to that of its neighbour are:—No. 1 to No. 2, 16 feet; No. 2 to No. 3, 31 feet 8 inches; No. 3 to No. 4, 56 feet 7 inches; and No. 4 to No. 5, 19 feet. From A to B on the plan (fig. 1) is 226 feet, and from A to C is 324 feet.

The substructures revealed by the excavations at Sites Nos. 3 and 5 were oval in plan. The ovals had obtusely rounded ends, somewhat like rectangles with rounded corners.

The compass showed that in Site No. 1 the longer axis of the plan of the substructure bore 30° west of north; in Site No. 3, 65° west of

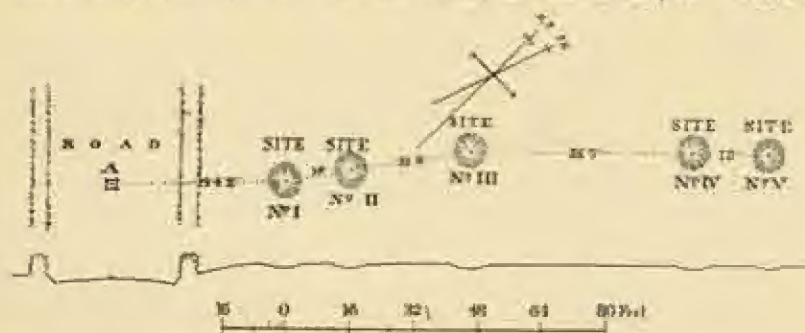


Fig. 2. Enlarged Plan of the sites of the Piled Pits.

north (or west north-west); and in Site No. 5, 49° west of north. The same trend—that is, north-west by south-east—seems to exist in the other and yet unexamined sites. For example, in No. 4 the longer axis appears to lie about 18° west of north.

THE EXCAVATION OF SITE No. 3.

Dealing first with the excavation of Site No. 3, which proved to be the most important station, evidence was soon obtained that the depression on the surface was the top of a silted-up pit. The digging work consisted at the first stages in the extraction of the filled-in material, which was of dark vegetable matter mixed with a little sand.

The walls of the pit were not well defined, but in penetrating into them the soil was found to be more dense and almost entirely composed of sand.

The cutting revealed in the undisturbed soil round the pit a layer of superficial soil and leaf-mould which varied in thickness from about 1 to 2 feet; below this was about $1\frac{1}{2}$ feet of somewhat blackish, sandy, compact soil. Beneath this there was about 5 feet of hard sand, sometimes greyish and sometimes reddish-brown, which rested upon a deposit of about 6 inches of a wet mixture of blue clay and grey sand. The lowest bed was of wet tough blue clay of unascertained thickness. The reddish sand occurred in rather irregular patches, and its colour varied from a reddish-brown to a dark brown. The deposit of superficial soil was found in various places which were tested throughout the plantation. It rests upon what seems to have been the surface of the ground at the time the sites were in use.

The material accumulated upon this prehistoric surface is not entirely of vegetable character, as it contains a very small quantity of sand. Probably a slight sprinkling of sand would be brought during gales from the sandy shore to the south, which would be caught by, and retained in, the coating of vegetation. A peculiarity in the stratification at the east side of the pit will be dealt with in the paragraph relating to supposed entrance passages.

In the pit at a depth of 7 feet were encountered the tops of spongy, much-decayed logs of round timber more or less vertically placed. Down to this depth in the digging the soil taken out was fairly dry and was largely vegetable mould. Water and sludge, however, began to come in at this depth, chiefly from the layer of mixed clay and sand. Well down in the silted material were got many chippings, cores, and implements of flint, and of other stones. Traces of a bed of charcoal containing fragments of pottery were also observed. After carefully working out the wet soil, which was still largely vegetable mould and was somewhat loosely deposited in the spaces between the logs—an arduous operation—the wooden substructure revealed itself more clearly. It was a longish oval in plan, and measured about 7 feet by $4\frac{1}{2}$ feet. Traces of what was conjectured to be wattle-work occurred round the edges of the oval. Taking into account this marginal wood-work, the dimensions were about 9 feet by 7 feet.

At the north-west end of the substructure piles were placed in two somewhat irregular concentric rings which were in contact with each other. The piles of the inner ring slanted inwards and downwards, forming a hollow inverted cone. At the opposite end the piles occupied a somewhat circular space, but were upright. Connecting these two sets of circularly disposed piles were somewhat irregular parallel rows of logs. These pieces of timber, except at the periphery of the structure where they were perpendicularly set, had a bias inwards and downwards and in several cases towards the north-west end. The number of piles used was 72. Traces of what was thought to have been an entrance passage on the east side were observed.

THE EXCAVATION OF SITE NO. 5.

The excavation of Site No. 5 revealed features practically identical with those of Site No. 3, and strata of the subsoils were similar, but the traces of supposed flooring and wattle-work were indistinct. Several implements of stone and pieces of wood charcoal were recovered, but no vestiges of pottery were seen. At a depth of 7 feet moisture began to accumulate, and there was revealed a longish oval wooden substructure about $7\frac{1}{2}$ feet by $4\frac{1}{2}$ feet. The piles comprising the structure were in all respects similar to those found at Site No. 3, but were less tightly set together. At the north-west end they were disposed in a roughly circular manner in two concentric rings, the outer ring consisting of 15 and the inner ring of 12 stakes. The piles of the outer ring were almost all vertical, and were as a rule thicker than those of the inner ring. The members of the inner ring slanted inwards and downwards, forming an inverted hollow cone, the top inside diameter of which was 2 feet. The apex of the cone—that is, the point towards which the stakes of the ring converged—lay slightly to the south of the true centre of the circle.

One of the heaviest piles from this portion of the structure was 8 inches in thickness and 2 feet in length. Some of them, however, were 3 feet in length, but were of less diameter than 8 inches.

The other, or south-east, portion of the wood-work and the middle portion formed a structure somewhat platform-like in character, and about 4 feet in length by 4 feet in breadth. The angles at which the piles lay were noteworthy.

Close to the rings already described, and all round the edge of the structure, the piles were perpendicularly placed. Beyond the rings to the south-east, with these exceptions, the piles lay at various angles, their tops being towards the south-east end, and their feet or tips in the opposite direction.

This position was accentuated the further the piles were situated from the rings. Some pieces of the wood-work at the platform-like end of Site No. 3 may have been gradually pressed in the course of time from the original positions by the superincumbent material.

Several small twigs were found lying across the ring portion of the structure. These may have been remains of a collapsed roof or floor, or of wattle-work fallen from the walls of the pit.

The platform portion consisted of 28 piles. Adding to these the 27 comprising the rings, the total number of piles employed in this site was 55. Measuring from a point which was reckoned to be the present normal surface of the plantation, that is, from a point 1 foot higher than the centre of the surface of the depressed area, to the lowest point of the substructure was 9 feet 4 inches.

THE EXCAVATION OF SITE NO. 4.

This site differed materially only in one respect from its neighbours which have been described. The wooden substructure consisted of only 23 piles (fig. 4), and appeared to have been left half finished. The pit had been anciently excavated in the same style as the others, and was a longish, rather square-ended oval. The soil at the bottom of the half which contained no substructure was darker than the surrounding soil, and had evidently been disturbed at some time.

The piles were not so securely placed in the soil as at Site No. 3. They occupied the north-west end of the oval, and were bluntly cut at



Fig. 3. Section of the subsoil of Pit No. 1.



Fig. 4. Diagrammatic transverse section of Pit No. 1, showing positions of the piles.

the lower ends. At the west side of the structure they were less substantial than those at the east or opposite side, and were placed at various angles, while those at the east side were perpendicular. This site was drier than its neighbours, and the relics were scarce. The subsoils were much of the same character as those disclosed at the other sites.

SECTION II—DETAILS OF THE RESULTS OF THE EXPLORATION, AND SUMMARIES.

Various kinds of timber were used, no doubt in an unseasoned condition, as the wood was probably placed in the structures not long after it had been cut. The fresh green appearance of the bark points to this conclusion. Moreover, old dried timber would not have given such a fine smooth uncracked surface as may be observed on the cut parts. The bark remained on the stems in many cases, and in the case of the birch wood it gave the timber a fresh and beautiful appearance.

The diameter of the piles was usually about 3 inches, but the diameters varied from 1 or 2 inches to 8 inches. Those of average diameter showed about 15 annual rings. The stems were usually straight and well grown. The wood had retained its shape, but was soft and spongy, and under pressure of the fingers gave way at once, exuding moisture.

It was not possible, owing to the decayed state of the timber, to ascertain at what time of the year the wood had been felled; in other words, whether it was Autumn or Spring felled—a piece of information which would have thrown light upon the question as to whether the structures were built at the beginning of the summer or of the winter season. Many of the logs in ancient pile-structures have a bias or lean, caused by long-continued pressure of the surrounding matter from above or from the side. Most of the Stoneykirk piles which were not perpendicular seemed, however, to have been originally set in a slanting position.

One of the most remarkable facts disclosed was that, in all the cases where the direction of the growth of the tree or branch was recognised, and this was detected in nearly every instance, the piles had been placed

upside down, or contrary to the direction in which the timber had grown. In other words, the top end of the branch had been pointed and dressed, and had been placed downwards in the clay. Now it is well understood that stakes inserted in the ground against the line of growth or "cap down," to use the technical term, last longer than those placed in the direction in which the timber has grown.

A knowledge of the obvious fact that the thinner end of a stake was more easily pointed than the thicker end, would not in this case be acted upon, for the simple reason that the logs were short and so finely grown that one end was not appreciably of less diameter than the other. Moreover, the craftsman had presumably to dress both ends of the logs, though the nature of the dressing at the upper ends is unknown, as the wood at the higher level has vanished by decay.

Again, the twigs and branches of the supposed wattle-work (described later), which required little, if any, sharpening, were also as a rule inserted upside down. It seems a fair inference that the inhabitants of Galloway at this early period had recognised a fact known to most present-day foresters and farmers—that stakes last longer when inserted in the ground upside down.

The piles seem to have been forced into the clay for only a short distance, but a great deal of the subsoil immediately above the clay must have been either dug out or loosened before they were inserted, as disturbed soil was found only a few inches above their lower ends. No pile point was recognised as having had the surface scratched. *Striae* would, of course, have been good evidence that the logs had been driven. The rarity of small pebbles and grit in the grey sand and clay may account for the absence of striation. Though the piles pierced the clay only a few inches, yet the substructure in each of the three explored stations was secure and immovable. This may be accounted for by the fact that each log was in contact with its immediate neighbour, and many were tightly jammed together. There was no packing of the piles by stones. The spaces between the rows had not been filled up, as the matter found there was quite loose, silted-in material largely of

a vegetable character—black mud and wet vegetable mould with an abundance of short lengths of small twigs. The outer surfaces of the logs round the periphery of the structure were in contact with the stiff blue clay and the mixture of sand and clay, which gave a steady support. These outside piles were nearly always perpendicular, except in the case of the west side of Site No. 1. The inner piles, on the other hand, were as a rule lying at an angle. At some places the structures were strengthened by running from the edge inwards rows of closely jammed piles, as at the south-east corner of Site No. 3. The result of this mode of construction would be a basis for a dry, solid, secure, but somewhat hollow flooring.

All the wood was round timber, no piece having been split, squared, or mortised—the sites thus differing from most other places from which anciently cut timber has been recorded. It was not observed that any charring of the wood had taken place before or after the preparation of the logs. The expedient of carbonising the outside of logs to assist the work of dressing them was presumably not practised, the cutting tool alone having been relied upon.

The logs which were allowed to be exposed to the air warped and cracked in the course of a few hours. Ten of them from Sites 1 and 3 were placed in water immediately after they had been dug out, and will be kept in a solution of alum and water until sufficiently "filled" to be able to retain their original shape in a dry environment.

By the favour of Professor Bayley Balfour, Mr H. F. Tagg, Museum Assistant in the Royal Botanic Gardens, Edinburgh, has kindly examined some of the logs, and reports that—

"Portions of seventeen separate logs have been examined, and of these seven prove to be birch, five are alder, and three are hazel. One of the pieces of wood submitted is either poplar or willow, I am not able to say which, and one small piece is oak. One is led to conclude that birch and alder were the timbers chiefly used in the formation of the pile structure.

"Fungi and other putrefactive organisms have caused the partial dis-

solution of the wood elements, and this disintegration unfortunately renders it impossible to make deductions as to the time of year in which the timbers were felled."

The smoothness of the cut surfaces of the piles shows that the axe had a finely polished surface and a clean unbroken cutting edge. The impression on each facet of the cut areas being always similar in character, testifies that only one type of cutting tool has been used. The tool was probably fixed in a handle, as otherwise it could not have been wielded with sufficient force and swing to penetrate, as it has done, into the body of the wood. The facets are each of small area, and are all shallow concavities resembling the inner side of a flattish spoon. They are more numerous than would occur on surfaces of timber operated upon in modern times.

Three styles of cutting occur. There is the long acutely-pointed pile-end, cut away on all sides; and the obtusely ridged, the tool having been worked from two opposite sides until the portion of the log to be severed could be broken off at the ridge. The pile-end in this style has the outline of the roof of a house. The third kind of labouring was a cutting nearly straight across the log. The cut surfaces in all three styles show a large number of small ridges and facets, but this feature is specially prominent in the third class.

It is apparent that this ancient carpentry work has been carried out by means of a tool which had not been able to travel far at one stroke. When the tool was plied inwards and across the log, the length traversed at each blow was extremely small. Where knots have been encountered, there has been no slicing through the hard core, the tool having had to be worked round the knot. After this process the harder timber was wedged off, with the result that a good extent of the lower wood was splintered. There is occasionally a blunt "break off" at the place where the stroke has terminated, the tool when it ceased to penetrate having been used as a wedge, and pulled outwards or so manipulated that it left a splintered surface adjoining the cleanly cut area.

It would thus appear that there has been used an implement compara-

tively blunt, which possessed not one but two outwardly curving faces, the line of intersection of which formed a slightly curved edge. Now it is precisely this class of tool which is met with in the common polished stone axe.

It must not be overlooked, however, that the thick, socketed axe-head of bronze might leave somewhat similar markings. The bronze tool of this type would undoubtedly travel farther than the thicker stone axe, if for no other reason than that the metal tool, having a socketed handle, would be assisted (certainly in no way impeded) by such attachment, while the stone axe might be hindered from any long sweeping action by the necessarily bulging hafting with which the middle of the axe-head must have been covered.

Plaster casts of the 10 pile-ends before referred to have been made. Photographs of eight of the casts are reproduced in fig. 5. A cast has also been taken of a bar of soap which has been sharpened at one end by a locally found stone axe-head simply held in the hand. A photograph of the cast of the bar of soap thus experimented upon is shown on the right-hand side in fig. 6. If this representation is compared with fig. 5, the aspect of the cuttings, ancient and modern, would seem to be identical.

A photograph of a cast of a bar of soap sliced with a thin flat axe of bronze which has a curved cutting edge (found in Wigtownshire) is shown on the left-hand side in fig. 6, and exhibits facets of an entirely different character.

The curved hollow adze (which occurs in iron) would give a much longer stroke than even the bulging bronze instrument, and would not leave such decidedly spoon-shaped impressions upon the wood as have been referred to. The bulging bronze axe has not to my knowledge been found in the neighbourhood, whereas many specimens of the type of stone axe described have been found there during the last twenty years.

As the same type of markings would have been left on the timber whether the axe were wielded radially or otherwise—that is, as an adze or as a hatchet—we have no clue as to the position of the handle relative to that of the blade.



Fig. 5. Casts of Pile-ends from the Piled Pits at Stoneykirk.

An inspection of the axe-work on the set of pile-ends which have been preserved, from Sites 1 and 3, shows that the axe has always been made to strike along the line of the length of the log. The breadth of the facets at the widest, it is further seen, does not exceed 2 inches.

It may be mentioned that the stone axe-head used to cut the bar of soap imprints facets not more than 2 inches wide. In this axe-head



Fig. 6. Casts of two Bars of Soap, one (to the left) cut with a bronze axe, and the other (to the right) cut with a stone axe.

the lengths across and round the cutting edge are respectively $2\frac{1}{4}$ and $2\frac{3}{4}$ inches.

These pile-ends embrace squarely cut ends and specimens of both the acutely pointed and the obtuse or roof-shaped end. The ridge in the last mentioned type is seldom centrally placed.

In the case of a log of the roof-shaped type, $4\frac{1}{2}$ inches in diameter, but the ridge of which is centrally placed, there are traces of 15 facets

in the cut surface. The ridge does not run horizontally, and measures $7\frac{1}{2}$ inches in length. In another pile-end, $3\frac{1}{2}$ inches thick, there are marks of 5 cuts in a length of $3\frac{3}{4}$ inches; and in another specimen, $4\frac{1}{2}$ inches in diameter, on an oval area, $4\frac{1}{2}$ inches by $3\frac{1}{4}$ inches, 8 facets may be seen. Seven facets can be detected in a length of 4 inches on the cut surface of another pile 3 inches thick.

Some typical and instructive specimens of acutely pointed pile-ends have been secured. On one log, 3 facets which touch each other like links in a chain show that the blade has travelled against the wood during three successive blows at least 4, $2\frac{1}{4}$, and 4 inches at the first, second, and third strokes respectively. The length of each excision is comparatively great, but the cutting is shallow, the blade having been driven along just under the bark. On one of the acutely pointed logs there is an area 7 inches by 2 inches showing 10 cuts. The cut areas on some of these acutely pointed logs exhibit very clearly a succession of concavities and ridges resembling a "choppy" agitated sheet of water—a feature which characterises the carpentry work found on the sites. The sharpening extends in the cases of 2 piles a distance of 14 inches from the point, but the distance varies some inches on different sides of the same log. Indeed, the irregularity of the work and the lop-sidedness of the pointed ends are noteworthy.

It seems undeniable that the balance of the probabilities lies in favour of a smoothly ground and hafted stone axe with a convex edge having been used.

Prehistoric relics of wood are rare. They are often too much decayed to be of value in throwing light on ancient carpentry work. The objects, moreover, are usually allowed to dry up and get out of shape, which ancient moist timber does shortly after it becomes exposed to the air. The consequence is that references to the character of hatchet-work on anciently cut timber are not frequent. The marks of the axe roughly wielded on logs are perhaps more instructive as to the nature and manipulation of the blade used than the more delicate chipping-work on axe handles and utensils of timber. In the latter

class of work, the areas both of the facets and the cut surfaces are small, and in some instances the facets have disappeared through wear, or from the scraping and smoothing process which was at times applied as a finishing operation.

The following review of the few recorded descriptions of Prehistoric Axe-Work on Wood will make it apparent that from the aspect of the imprints of the cutting instrument much may be learned as to the nature of the tool used and the period of the relic:—

One ancient fragment of timber is described (*vide* Item I. in the annexed Table of References to Prehistoric Axe-Marks) as "sculptured into a series of projections and incisions, clearly showing that they have been made by the strokes of a hatchet of small power, doubtless of a stone celt."

Again, a pile (Item II. in Table) is mentioned as having about 5 feet of its length "sloped into a point in a very regular manner; the blows of the celt or hatchet followed each other in the same direction, producing facets running nearly all along the point almost exactly in the same planes. The workmen evidently were clever carpenters. The facets are not more than $1\frac{1}{2}$ inch wide. . . . The workmanship of the piles of the lake-dwelling at Mooselorf of the Stone Age is altogether different and much rougher, for every blow of the hatchet is on a different plane, and there is no appearance of any regular facets. The piles of the Bronze Age at La Craaz are so regularly worked, that one would imagine they had been made, not by the bronze celt or hatchet, but by a strong steel tool used with both hands. The difference of the hatchet-work on the points of the piles of the Stone and the Bronze Age is as great as that between the point of a pencil cut by a child and one cut by a grown person with a firm hand and accustomed to the work." In the case of another log (Item III.), "the tool used for sharpening it must have had a curved edge, for every cut had left a slight hollow."

In another instance it is stated (Item IV.) that "the holes . . . prove that an instrument with a curved edge must have been used to cut them."

The students of the relics from the Swiss Lake Dwellings state that not only can they discern whether the cutting has been done by a stone or a metal tool, but mention (Keller's 2nd English edition, vol. I. pp. 297-300) that the imprints of more than one type of bronze axe can be distinguished.

Turning from the Swiss remains, it is found that wooden axe handles discovered in the peat bogs of Denmark furnish two instances of the description of ancient axe-work of the later Stone Age of that country.

One handle (Item V.) is referred to as having been cut in parallel and longitudinal facets. The blows were dealt dexterously but obliquely, the *striæ* indicating a somewhat notched cutting edge. Similar craftsmanship is exhibited on another handle (Item VI.).

From England and Ireland, like the Continent of Europe, the records are meagre. In a Cumberland axe handle (Item VII.) the whole surface "has been cut by repeated blows of a cutting instrument, showing cuts and ridges

$\frac{1}{2}$ inch apart in small concave facets. Between the celt and the hand these are arranged in a spiral manner round the wood, perhaps while turning the wood in the hand during the process of finishing."

Another example of carpentry from the same place (Item VIII.) shows a portion of the surface "carefully chiselled by successive long and short cuts with a sharp stone tool." A cut surface (Item IX.) is "neatly shaped with ten uniform straight longitudinal facets."

The famous Log House, discovered under many feet of peat in Donagall in 1833, is carefully described by Captain Mudge (Item X.). "The mortises were very roughly cut, as if they had been made with a kind of blunt instrument, the wood being more bruised than cut; and it may be inferred that a stone chisel, which was found lying on the floor of the house, was the identical tool by which the mortises were made. . . . The chisel is ground and polished. . . . By comparing the chisel with the cuts and marks of the tool used in forming the mortises and grooves, I found it to correspond exactly with them, even to the slight curved surface of the chisel; but the logs have evidently been hewn with a larger instrument in the shape of an axe, which I have no doubt was also of stone, as the marks, though larger than those the chisel would have made, are of the same character, being rather hollow and small cuts, and not presenting the smooth flat surface produced by our common iron axe."

During the thirty years' discussion in Danish archaeological circles as to the division of the Pre-metallic Period of Denmark into two divisions—that of the Shell Mounds and of the Megalithic Monuments—one of the principal objections to the theory of Worsaae has always been that the simply flaked flint blades, characteristic of the earlier or Shell Mound Age, could not have been employed as hatchets, like the later polished stone axes.

The experiments of Mr G. V. Smith show, however, that green pine wood—which was common in Denmark during the earlier period—could easily and quickly be dressed to almost any shape by the primitive flaked flint blade hafted as in the ancient style.

The photographs accompanying the account of Mr Smith's experiments¹ show facets such as might be expected from the nature of the tool. The cuts are not of spoon-shaped form, and can be distinguished from those produced by the polished stone axe with curved edge which came into use at a later period.

¹ *Aarbøger*, 1891, pp. 283-296; and *Mém. de la Soc. des Ant. du Nord*, 1890-95, pp. 79-110.

TABLE OF REFERENCES MADE IN THE TEXT TO PREHISTORIC AXE-MARKS.

Item.	Locality.	Nature and Supposed Age of Relic.	Reference.
I.	Röbenhausen, Pfaffikon.	Fragment of an Implement of Oakwood—Premetallic.	Kollar's <i>Lake Dredgings</i> , English (2nd) ed., vol. 1, p. 55, and figured vol. 3, pl. xiii, fig. 2.
II.	Le Crusa, Lake of Neuchâtel.	Log from Pile-structure—Bronze Age.	<i>Ib.</i> , vol. 1, p. 264.
III.	Peat Moor of Mercurago, Arosa.	Log from Pile-structure—Early Bronze Age.	<i>Ib.</i> , vol. 1, p. 349.
IV.	Peat Moor of Mercurago, Arosa.	Wooden Wheel—Early Bronze Age.	<i>Ib.</i> , vol. 1, p. 351, and figured vol. 5, pl. ex, fig. 19.
V.	Peat Bog, Sigurdalev, Zealand, Denmark.	Flint Axe-head in Ash-wood Handle—Premetallic.	<i>Aarbøger for Nordisk Oldkyndighed og Historie</i> , 1893, pp. 125-128; and <i>Mém. de la Soc. des Ant. du Nord</i> , 1898, p. 171.
VI.	Peat Bog, Storenøse, Gjøltofte, Zealand, Denmark.	Stone Axe-head in Handle of Birch-wood—Premetallic.	<i>Aarbøger for Nordisk Oldkyndighed og Historie</i> , 1898, pp. 125-128; and <i>Mém. de la Soc. des Ant. du Nord</i> , 1898, p. 178.
VII.	Turn near Eggenmont, Cumberland.	Stone Axe-head in Handle of Beech-wood—Neolithic or Bronze Age.	<i>Archæologia</i> , vol. xlv, pl. viii, fig. 3; and Evans' <i>Ancient Stone Implements</i> , 2nd ed., p. 153.
VIII.	Turn near Eggenmont, Cumberland.	Club of Beech-wood—Neolithic or Bronze Age.	<i>Archæologia</i> , vol. xlv, p. 258, and beautifully figured, pl. ix, fig. 1.
IX.	Turn near Eggenmont, Cumberland.	Fragment of Handle-end of Wooden Stick or Club—Neolithic or Bronze Age.	<i>Archæologia</i> , vol. xlv, p. 259.
X.	Peat Bog at Drunkelin, Drenghol.	Timber used in a Peat-submerged Loghouse—Before the Christian Era.	<i>Archæologia</i> , vol. xxvi, p. 363; and Wilde's <i>Catalogue</i> , p. 235.

From the study of these instances of Prehistoric Axe-Work it becomes clear that not only can the type of bronze instrument employed be discerned, but the kind of stone axe and the size of the tool may be determined with some exactness.

POTTERY.

As already mentioned, vestiges of pottery were observed at Site No. 3 only. The fragments are in a poor condition, and are portions of hand-made, non-glazed vessels of darkish coarse paste. The paste has been



Fig. 7. Fragments of Pottery from north end of Site No. 3. (Scale $\frac{1}{2}$.)

mixed with pounded-up fragments of some whitish sandy stone. When extracted, the pieces were scarcely recognisable as pottery, being coated with soil; but after slow natural drying the crust of soil was picked off, and by the application of a soft brush the particles of charcoal, loam, and sand which filled the interstices were got rid of, disclosing the original skin of the ware. The ornamentation upon the skin is quite distinct. The fragments consist of more than one set, representing more than one vessel. One set was found at the north end, and the other at the south end.

North End.—So far as can be guessed from the appearance of the few fragments, the feature of the vessel (or vessels) from the north end (fig. 7) was that the pottery had rounded, plain, raised ridges of varying breadth which ran, more or less parallel, horizontally round the exterior of the ware. The walls were $\frac{1}{2}$ inch in thickness, and where mouldings occur the thickness was about $\frac{1}{2}$ inch greater. The average breadth of the mouldings was about $\frac{1}{4}$ inch. The intervening space between the ridges varied from 1 to 2 inches, and had (lying approximately parallel to the mouldings) rows of little closely-set, indented, squarish punctulations, impressed as with a comb-shaped implement before



Fig. 8. Fragment of Pottery from north end of Site No. 3. (Scale $\frac{1}{2}$.)

the clay was fired, and resembling the surface-work on some modern granolithic pavements. It is probable that the number of these rows in a panel varied from one to four, and some of the intervening panels may have been quite plain. In one panel where the rows are absent plain lines have been incised diagonally and across each other. The curvature of one piece indicates an inside diameter at the rim of about 8 inches. Another small fragment (fig. 8), ornamented with parallel lines crossing each other diagonally, has a ridge on the exterior apparently running vertically.

Neither the style of the rim nor the shape of the base can be determined from the recovered fragments.

South End.—The pieces from this end (fig. 9) show the presence of similar lines of small, closely-set, squarish indentations as if made by the



Fig. 9. Fragment of Pottery from south end of Site No. 3, showing rim and exterior ornamentation. (Scale $\frac{1}{2}$.)

teeth of a comb-like implement, but the system of decorating by raised ridges has not been adopted. The lines have been set more or less parallel



Fig. 10. Two portions of rim of Vessel from south end of Site No. 3, showing ornamentation on the bevel of the rim. (Scale $\frac{1}{2}$.)

to each other, and diagonally to the horizontal lip of the vessel. Fortunately in this group of fragments some portions of the rim were recovered. The rim was about $\frac{1}{4}$ inch broad with an inwardly slanting bevel, and

was ornamented by the same kind of rows of small indentations. The rows on the rim were arranged almost parallel to each other, at right angles to the edge, and equidistantly about four rows in the space of an inch. The thickness of the sides decreased from 1 inch at the rim to $\frac{1}{2}$ inch at a point about 2 inches down. This and other rim portions (fig. 10) betray an affinity in shape and ornamentation to the type of rim to be seen in some of the vessels of the Scottish Stone Age. The interior surface of the pieces is unadorned. The curvature shows an inside diameter at the rim of about 8 inches. The shape of the lower portion of the vessels is not determinable.

Eleven fragments are not illustrated, being too much wasted for useful description.

OBJECTS OF FLINT.

Site No. 1.—Only two pieces of flint were got at this site. They are ordinary flakes.

Site No. 5.—From this place were obtained two nodules slightly chipped, half of a nodule from which three flakes have been struck, and two roughly fractured fragments.

Site No. 3.—This site yielded a profusion of flint relics, over 230 fragments, nearly all simple chips, having been recovered. While flint may not have been wrought at the other sites, it is clearly proved that this industry was carried on at No. 3. The best evidence of this is the presence of minute chippings. Some of these small flakes measure not more than $\frac{1}{4}$ inch in extreme length. Some of the smaller as well as the larger flint fragments have been fractured.

There are several flint nodules, entire and showing no chipping. They may have been portion of a stock of the raw material brought into the settlement. Other nodules have lost only one or two flakes. These are of a somewhat irregular and awkward shape, and were probably discarded as unsuitable after one or more blows had been struck, or less probably they were lost before they were finished with. Two

nodules of this type, respectively $1\frac{1}{4}$ and $1\frac{1}{2}$ inches in height, are shown in fig. 11.



Fig. 11. Nodules of Flint showing flaking from Site No. 3. (Scale $\frac{1}{2}$.)

Some complete cores were found denuded of their original surface on all sides. Two small regularly formed cores, each only 1 inch in height, are shown in fig. 12.



Fig. 12. Cores of Flint from Site No. 3. (Scale $\frac{1}{2}$.)

Six small scrapers were found. They are oval, and in each specimen one of the long edges has been secondarily wrought. Two of these are shown in fig. 13.



Fig. 13. Small Flint Scrapers from Site No. 3. (Scale $\frac{1}{4}$.)

The most interesting find in flint is a massive horseshoe-shaped, tortoise-backed scraper of bluish-grey flint (two views of which are

shown in fig. 14), $2\frac{3}{4}$ inches in length by 2 inches in breadth, and $1\frac{1}{4}$ inches in thickness in the centre. The surface of one face is smooth, unridged and without the bulb of percussion, and indicates that it has been made from a broad flat flake. The other face retains nearly 2 square inches of the crust or original skin of the nodule. The sides, as well as the semicircular bevelled scraping edge, have been carefully trimmed, and the secondarily wrought periphery measures $4\frac{1}{2}$ inches in length. The outline of the tool is symmetrical, the sides being so



Fig. 14. Flint Scraper from Site No. 3, back and side views. (Scale 3.)

trimmed that they run parallel for a considerable distance before they round off to form the semicircular end.

Most of the flaked surfaces of the flints have a greyish-white patina.

It is interesting to note that very small cores (indicating the fabrication of minute flint flakes and utensils) have been found in close association with a very large flint scraper.

OBJECTS OF STONE OTHER THAN FLINT FROM NO. 1.

Fragment, comprising about one half, of a grey, coarse-grained quartzite pebble which has been used as an anvil-stone, probably before it was

broken. A hollow has been worn by use on each of the four sides. The dimensions are $2\frac{1}{4}$ inches by $1\frac{1}{2}$ inches by $1\frac{1}{2}$ inches.

Flattish oval anvil-stone of greywacke. One end is broken off. Near the centre of each of the two flat faces is a small artificially roughened area. The dimensions are $5\frac{1}{2}$ inches by $4\frac{1}{8}$ inches by $1\frac{1}{2}$ inches.

Portion of a flattish oval pebble of dark-coloured stone. The narrower end has been abraded by its employment as a hammer-stone. The length is $2\frac{3}{4}$ inches, the greatest breadth 2 inches, and the greatest thickness $1\frac{1}{2}$ inches.

OBJECTS OF STONE OTHER THAN FLINT FROM SITE NO. 3.

A finger-shaped, smooth, greyish pebble with end broken, $2\frac{1}{2}$ inches by 1 inch by $1\frac{1}{2}$ inches. It has served as either a hammer-stone or an anvil-stone, as there is a small abraded area on the surface of one side near the intact end.

Flattish pebble, $2\frac{1}{4}$ inches long, of dark quartzite, with four corners abraded by use.

Oblong, flat, close-grained, waterworn sandstone pebble, $4\frac{1}{2}$ inches by $3\frac{1}{4}$ inches by 1 inch, with roughened surface at two ends, three very smoothly-ground facets at different edges, and a smooth, somewhat concave surface on one of the flat faces.

Fragment of a rubbing-stone of sandstone, 5 inches by $4\frac{1}{2}$ inches by 2 inches, with smooth concave face.

Flattish pear-shaped pebble of greywacke, 8 inches by $3\frac{1}{4}$ inches by 1 inch, one entire side ground perfectly flat.

Long thick pebble of very hard greenish sandstone, $6\frac{1}{4}$ inches by $3\frac{1}{4}$ inches by $2\frac{1}{4}$ inches, both ends very much worn and fractured by use as a pounder or pestle. Portions of the sides have been knocked away.

Four complete white quartz pebbles, all bearing traces of use as hammer-stones, viz.:—a roundish stone, 2 inches thick, with two portions of the surface worn hollow; a longish irregular stone, $2\frac{1}{4}$ inches in length, two ends of which are similarly worn; a flattish egg-shaped stone, $2\frac{1}{4}$ inches in length, one end of which is very slightly abraded;

and a small pear-shaped stone (fig. 15), $1\frac{1}{2}$ inches in length, the narrow end of which is abraded.

Irregular pear-shaped pebble of quartz, 3 inches by 3 inches by $2\frac{1}{4}$ inches, the apex abraded by use.

Two fragments of white quartz; one piece, 2 inches in length, shows a portion of a deep hollow worn on each of two of the sides by use of the original pebble when complete; the other piece, $1\frac{3}{4}$ inches in length, possibly part of the same pebble, shows a portion of a similar hollow on one side.

Rectangular fragment, about 4 inches by 4 inches by $2\frac{1}{2}$ inches, of a stone which has been used for some grinding purpose, as one face is ground concave.



Fig. 15. Small Quartz Pebble with abraded end from Site No. 3. (Scale $\frac{3}{8}$.)

Long, somewhat irregular stone, 8 inches by 4 inches by 6 inches. One end is much abraded, and shows the stone has been used as a pounder or pestle.

Small, flattish, oval, waterworn pebble of sandstone, about 2 inches by $1\frac{1}{4}$ inches by $1\frac{1}{4}$ inches, pitted on the two flat faces by use either as an anvil-stone or hammer-stone.

Flattish, somewhat irregularly-shaped stone, 10 inches by 7 inches by 3 inches. The surface of one of the flat sides is very smooth—so smooth as to suggest that it has been ground to a fine and even surface, and consists of two different facets, the plane of each differing slightly. The stone has probably been used in some rubbing or polishing process.

Flattish egg-shaped pebble of hard brownish-gray sandstone, $2\frac{1}{4}$ inches long. Two of the flat faces have been abraded by use.

OBJECTS OF STONE OTHER THAN FLINT FROM SITE NO. 5.

At Site No. 5 a large number of white quartz pebbles averaging about the size of a marble were found in eight nests or pockets round the margin at the south-east end of the pit and above the wood-work. They seemed to have been gathered and deposited by human agency.

The other objects of stone recovered at this site are as follows:—

Flattish round pebble of very tough whitish quartzose sandstone, $1\frac{1}{2}$ inches in thickness and $2\frac{1}{2}$ inches in breadth, the most of the periphery



Fig. 16. Flattish circular Pebble of Quartzose Sandstone, with the periphery abraded by use. (Scale 3.)

much worn away by use as a hammer. It is shown in fig. 16.

Another pebble of the same shape, but of quartzite, with periphery abraded in two places by use as a hammer-stone.

A large flattish oval pebble of greywacke, $9\frac{1}{2}$ inches in length by $6\frac{1}{2}$ inches in breadth, and $3\frac{1}{2}$ inches in thickness, with a small roughly chipped-out area in the centre of one of the flat faces. The markings on this face seem to show that the stone, when this side was uppermost, has been used as an anvil. Nearly the whole of the surface on the opposite side has been artificially roughened over a well-defined area by

means of some picking-out process. The punctulations run into one another, and are evenly distributed and shallow.

A representation of this side is given from a photograph in fig. 17.

In the National Scottish Collection is a stone of the same shape, 8 inches in length, $4\frac{1}{2}$ inches in breadth, and $2\frac{1}{4}$ inches in thickness, with one side roughened in the identical manner, but with the opposite



Fig. 17. Flattish oval Pebble of Greywacke with an artificially roughened surface. (Scale $\frac{1}{4}$.)

face plain. It was found some years ago within a mile or two of the sites under description. No associated objects have been recorded.

In the writer's collection is a third stone of this type, recently discovered at Lodney in the same district. It is, like the others, an oval, flattish, water-worn stone. It measures $6\frac{1}{2}$ inches by $4\frac{1}{2}$ inches by $1\frac{3}{4}$ inches, and is of hard sandstone. A flake has been struck from one end. Practically its entire surface bears traces of shallow punctulations. On the periphery the markings are fine and minute. On each face closely-set pittings somewhat more pronounced occupy a well-defined area. One

face appears as if it had been used in some grating or smoothing operation, as the roughened surface is slightly worn. This rare type of stone implement, now for the first time dealt with, has fortunately in two out of the three cases been found in association with other relics. The specimen got at Lodney was in apparently close association with charcoal, and discoloured by fire, some broken flints, several flint scrapers of ordinary size, some complete flint nodules, fire-fractured stones, and with fragments of a somewhat thick hand-made vessel of black coarse ware, the surface of which was decorated by the use of some blunt-pointed tool impressed before the clay was fired.

These deposits were situated about 17 feet 4 inches distant from the middle of a human skeleton, and to the south-south-west, or, more exactly, 35° west of south (mag.). The skeleton was in a state of extreme decay and was that of an adult, and was undisturbed, unburned, and extended. The skull fragments and the lines of the limbs were recognisable, but on being fingered the remains went into powder. The head lay to the south, and the longer axis of the body bore 20° east of north (mag.). The half of a bead of what was thought to be some hard wood was got about 2 feet from the body.

At a point 39 feet from the middle of the body to the south-south-east, or, more exactly, 10° east of south (mag.), was found a small fragment of a hand-made vessel of black ware, the wall of which was about $\frac{1}{2}$ inch thick.

Twenty-one feet from the middle of the body to the south-south-east, or, more exactly, in a direction 35° east of south (mag.), the half of a perforated flattish oval stone of red sandstone was found. The fragment, which has been broken at the perforation, is $2\frac{1}{2}$ inches in breadth, 2 inches in length, and $\frac{3}{4}$ inch in thickness. The perforation had narrowed towards the interior from each face, and had a diameter which varied from $\frac{1}{4}$ inch to 2 inches. No particles of cremated bones were anywhere noticed.

During the Bronze Age extended burials were rare. Not one appears to have been recorded from Scotland, while very few have been found in

England.¹ The Lodney burial is therefore not likely to be of the Bronze Age. Judging from the apparently associated relics, it cannot, without much difficulty, be assigned to the Early Iron Age. It is thus to be inferred that the burial took place during some premetallie stage of culture, an inference which leads to the belief that the 'grating' stones, three specimens of which have been described, and the Stoneykirk piled pits, may belong to the Stone Age.

OTHER RELICS OF STONE.

Very few stones were got on any of the sites. Any which were not quite clearly implements almost invariably showed scratchings, traces of rubbing, or were fractured. These are not described, and would not perhaps have attracted attention unless they had been found at an anciently inhabited place. Some perhaps should, however, be referred to.

At Site No. 5 was found a flattish, oval, water-worn pebble of hard sandstone, $3\frac{1}{2}$ inches by 2 inches by 1 inch. One of the flat sides is covered by shallow scratchings. The *striae* are in two sets. The component *striae* of a set are parallel to themselves; but the two sets, which cover different portions of the surface, run at slightly differing angles, and both are obliquely placed to the longer axis of the pebble.

Another stone from No. 5, whether humanly wrought or not it is difficult to say, is a symmetrical fragment of a white quartz pebble in the form of a flattish cone $1\frac{1}{2}$ inches high. The base is the natural water-worn convex surface of the pebble, and is $1\frac{1}{2}$ inches in diameter. The other surfaces of the cone are rough.

No search has yet been made for a refuse heap. Possibly one may exist, but no remains of food refuse have so far been met with. Many of the stones, but none of the implements, have been acted upon by fire.

A few flint scrapers of ordinary type have been found in the garden at the cottage shown at *e* on the plan (fig. 1), and several grinding and

¹ The Hon. John Abernethy refers to this subject in the *P.S.A. Soc.*, vol. xii., 3rd series, p. 201.

polishing stones, some of peculiar types, have been picked up in the field to the east of the plantation at *f*, *g*, and *h*.

The following TABLE OF THE WORKED OBJECTS FOUND IN THE PITS brings into prominence the importance of Site No. 3.

Site	No. 1.	No. 3.	No. 5.
Number of Logs in Substructure	23	72	55
Implements of Flint . . . . .	...	7	...
Nodules, Cores, and Chippings of Flint	2	over 230	5
Implements of other Stone, fragmentary or whole	3	18	3
Pottery . . . . .	...	Pieces of several vessels	...

SECTION III.—INFERENCES AND CONCLUSIONS.

By considering all the purposes for which it might appear possible that these places have been constructed, the probabilities of the case may be arrived at. There is no trace of any interments having taken place in them; and it is not a feature of early graves that they are marked by a *hollow* on the surface. A barrow at Ganton Wold,¹ examined by Canon Greenwell, covered a cist made of planks, which contained an inhumed burial, and was supported on eleven stakes, but is not analogous to the sites under discussion. There is no evidence that these places have been graves. It is improbable that they have been refuse pits. They were apparently not holes such as were excavated during early times for the extraction of clay for pottery-making, or such as were mined in the chalk districts of England and France to obtain flint nodules and chalk. The under-structures of timber appear to put all these suggestions out of court. Flint nodules, moreover, do not occur in this particular forma-

¹ *British Barrows*, p. 170.

tion, but are to be found not far distant, and in various other parts of Western Wigtownshire, but only in the stratified gravels, at points from 30 to 200 feet above sea-level.

If the sites have been wells, why should there be more than one, and why hearths? If they have been pitfalls to entrap wild animals, or shelters for huntamen, or if they have merely been stores or crematories, how account for the presence of workshop utensils?

More probably they have served as workshops of some kind, and certainly for some grinding and polishing operations and the manufacture of flint implements. They may have been cooking places also.

While probably stores, workshops, and cooking places, these curious sites, bearing traces of human activity and distinct domestic associations, may, nevertheless, have been dwellings, or cellars beneath dwellings.

The theory, then, of dwellings is by far the most plausible. From the dimensions of the places it may be that they were more in the nature of shelters or sleeping places than dwellings in the modern sense.

FLOORING.

At each end of Site No. 3 traces of what was supposed to be flooring were noticed. It was at these points only that the fragments of pottery were obtained. No doubt any pottery on other and central portions of the floor would be carried down to the lower and very much wetter layer on the collapse of the floor, and the ware, being soft and non-glazed, would soon resolve itself into its original clay and pounded pebbles. At the south end a portion of a layer of charcoal about 2 inches thick was associated with the fragments of pottery.

Mr Richard McKay has kindly examined some pieces of the charcoal microscopically, and reports that it is of coniferous wood, probably pine.

The heavier stone utensils were found at all the sites lying far down between the piles. They had perhaps once rested on the floor, and as the floor decayed they had fallen through it into the lower zone.

The layer of charcoal and the pottery bed on the end margin of No. 3 gave a valuable clue as to the height of the flooring relative to the pre-

historic surface and to the level at which the tops of the piles appeared during the examination of the site.

Assuming, as may quite safely be done, a floor 6 inches thick and a layer of charcoal 2 inches in depth, the floor level must have been between $1\frac{1}{2}$ feet and 2 feet above the tops of the piles—that is, the tops as discovered in the diggings.

This indicates that owing to the comparative dryness of the layer immediately underneath the flooring, the timber in that zone had so decayed as to be unrecognisable among the silted and other vegetable matter.

In other words, the logs as extracted had 18 to 24 inches of their top portions decayed.

The perishing of the timber of the flooring, and the wood immediately beneath the flooring, would set in no doubt rapidly after desertion of the settlement, owing to the comparative dryness and openness of the soil in that part. But this did not take place in the still lower zones, where the wetness, the presence of clay, and the depth from the surface would all tend practically to seal hermetically the contents, thus ensuring the preservation of the shape and contour of all the pieces of timber.

SUPPOSED WATTLE-WORK AT SITE NO. 3.

Round the walls of the pit at No. 3 Site, on the margin of the area in which the piles occurred, and imbedded in the sand and clay, were found twigs and small branches, some set vertically and others at angles. Some modern tree-roots were encountered, but were not confused with the ancient wood. In no instance were the twigs seen to be horizontally placed, but they occasionally crossed each other. The thickness of the twigs varied from $\frac{1}{2}$ inch to 2 inches. Some of them were placed immediately outside the wooden substructure, while others were found $1\frac{1}{2}$ feet from it. They were detected in different conditions of decay according to the stratum at all the levels, except in the layer of vegetable matter at the modern surface. Considering first their condition in the deepest zone—the stratum in which the piles were encountered—the

twigs were in the same state of preservation as the piles, spongy but unaltered in shape. In the zone immediately above, the same pieces of wood were traced; but the timber was dark-brown, moist, and stringy. The greater amount of air and the less amount of moisture in this zone account for the difference in the condition. At a still higher level the same twigs were visible, but the remains were in a different state of decomposition. The decayed matter resembled soft, moist, brownish-black silt mixed with sand, and was in contrast with the surrounding lighter coloured sandy soil. It would not have been recognised as the remains of much decayed timber unless the lines of the branches had been traced continuously from the lower levels. The rotundity of the twigs and their forking at some places were also useful clues in the identification. In the still higher stratum, and in channels which were observed rising upwards in the same lines as the remains just mentioned, faint traces of slightly dark-coloured sand were detected, and this was considered to be the vestiges of the branches which had thus been traced from point to point through the various levels. It was the detection of well-preserved wood in the lowest zone which led to the recognition of the identical branches, though in different conditions, at the higher levels. It is remarkable that these branches had been placed upside down, a position in which the logs forming the under-structure were also found. It is conjectured that the branches were remains of basket- or wattle-work, which may have lined the walls of the pit. As mentioned, horizontal twigs were not seen, but these may have fallen down, leaving the vertical standards only as survivors. As the surviving twigs were not very numerous, nor set very closely together, it is probable that the exploration revealed a portion only of the wattle-work—probably the branches which were farthest removed from the pit and in the least disturbed soil. The lining facing the inside of the pit would, no doubt, be more exposed, and would more readily decay and fall into the pit after abandonment of the place.

It was only by the careful use of a penknife that the continuity of individual stakes was traced from one level to another, and the presence

of the supposed wattle-work in the upper levels established. It seems indeed probable that the walls of the pit were strengthened and protected by a lining of this description which reached from the floor level to the prehistoric surface, if not higher. At the south end, but at the higher levels only, were observed interesting vestiges of what appeared to have been unusually large branches. One piece had many of the branches forking upwards from it for a distance of 2 or 3 feet. They had been placed vertically and in the direction of the growth of the tree—a direction, it will be remembered, contrary to that of the other wood-work of the walls and of the logs of the under-structure. As none of these larger branches were found at the level of the piles, the nature of the wood was not determinable. At the higher levels the interior of the branches had vanished, leaving a vacancy which was surrounded and protected by a rather hard crust of black matter.

At this end of the site the sand has been discoloured red and brown and hardened by the presence of ferruginous matter, and in the vacant interiors of the branches there was a slight sprinkling of light coloured sand not so discoloured. Probably the white sand in the interiors gained admission through cracks at a time when the interior had become much decayed or had vanished, but before the *eremacausis* of the bark or crust, or the hardening and discoloration of the outside sand, had taken full effect.

SUPPOSED ENTRANCE PASSAGES.

In testing the ground at various points in the immediate vicinity of the pits, it was found that the superficial black layer was of almost uniform thickness. Beneath it was sand somewhat dark in colour. At some places, though not in all, near the foot of the black layer was observed a very thin layer—a mere sprinkling—of whitish sand.

From a careful inspection of this sprinkling it was conjectured that the sand composing it had been carried by a gale from the shore region, where great quantities of white sand occur, and, as can be proved, did also occur during the later prehistoric periods.

The drifting sand had been deposited in varying degrees of thickness, like a slight fall of snow which has drifted over somewhat uneven ground, and in some spots it was absent.

A section of the soil at the east wall of the pit at Site No. 3 revealed the presence of the same sprinkling of white sand. It occurred under the black layer and was several inches thick, thinning out on each side. It was not so white nor so readily recognizable as the sprinkling disclosed by the test diggings in the vicinity, yet no one present failed to detect it. While the black layer appeared horizontal at its top, its base dipped considerably in the middle of the east wall, reaching to within $1\frac{1}{4}$ feet of the floor level. At the lower part of the east wall, and in a curvature coinciding with the dip of the black layer, lay the white sand to a maximum depth of over 12 inches.

Slicing away the soil of the east wall, the dip of the strata became less until it disappeared, and the presence of the white sand became gradually less noticeable.

No similar feature was observed at the other side of the pit. It is conjectured that the vestiges of some kind of entrance passage or doorway had thus made themselves evident. Similar but less pronounced traces were also seen at the east wall of Site No. 1.

No matter what type of hut may have been in vogue at these places, the function of the wooden substructure is an interesting problem.

The reasons for primitive man having lived in a sunken or earth-hidden dwelling are obvious. Whether the under-surface habitation was of stone or wood, or whether half or wholly subterranean, it was warmer and less exposed to adverse weather conditions than the ordinary surface hut, and—an important consideration—it was not readily liable to detection by an enemy.

The sunken flooring might, however, be a serious drawback and act merely as a hollow in which rain and ground water would accumulate. If the subsoil were gravelly, chalky, or of pure sand, the dwelling would be dry and comfortable. Should the subsoil be moisture-retaining, or

overlie a bed of clay, the great discomfort of a damp floor would arise. Now the excavations revealed the presence of a bed of moist blue clay, and, what in these circumstances might be expected, a wet stratum immediately above it. A likely hypothesis then is that the moisture in and above the layer of clay rendered the earthen floor uninhabitable, and, as a means to prevent a wet floor, the prehistoric architect hit upon the ingenious expedient of a structure of wooden piling, more or less upright, under and supporting a horizontal flooring. The flooring would thus be insulated against direct contact with the moisture-laden strata, and thus render the dwelling comparatively dry and comfortable.

The same expedient is recorded by Canon Greenwell as having apparently been practised to a modified extent in the endeavour to insulate against wet a corpse in a barrow at Ganton Wold.¹

The position selected for these pit-dwellings, if such they were, seems to have been chosen because of its comparative dryness, the place being not lower than any of the surrounding stretches of country, yet we find the constructors had to face the difficulty of under-surface moisture. It has been seen how desirable a half or wholly hidden under-surface dwelling would be in primitive times, and that where the climate and the subsoil are wet, a damp floor would result in this class of house unless special measures were taken to overcome the difficulty. What these measures were is now perhaps elucidated.

A common feature of prehistoric exploratory work is the disclosure of pits. A review of some of these discoveries which have a certain, though usually a remote, similarity to the sites at Stoneykirk may perhaps be appropriate in connection with the phenomena under discussion.

In England during the Pre-Roman and Romano-British periods pits were sometimes dug in the search at these times for chalk for top-dressing soil,² or for the disposal of refuse in and around village sites. Many were used later as graves. Evidence in some cases points to the pits having been cellars underneath surface-dwellings. The recent explorations

¹ *British Barrows*, p. 170.

² *Excavations in Cranborne Chase*, vol. I, pp. 4-5 and p. 25; and vol. IV, p. 43.

on the Antonine Wall have disclosed at Castlecary a deep circular pit probably used for the disposal of rubbish, and at Roughcastle "military pits." Many of the cases described by General Pitt-Rivers seem, however, to have been actual pit-dwellings.¹ In no instance was wooden flooring observed, but the situations were usually dry, being on a chalky formation. General Pitt-Rivers² examined a pit situated on the slope of a hill near South Lodge Camp, Rushmore Park, 23 feet in diameter and 7 feet 4 inches in greatest depth. The sides were abrupt, except that on the west, where there was a ramp of undisturbed chalk communicating with the interior from the surface. The ramp was notched as if there had originally been steps on it. The bottom of the pit was not level but smooth, and it fell towards one side, as if to admit of the rain-water accumulating there. Fragments of a human skeleton were found on one of the steps. Nearly on the same level as the skeleton was found a chipped flint celt. Pieces of coarse hand-made pottery were got about two-thirds down in the silting, and sixteen pieces of what has been termed Romano-British ware were found in the surface mould.

The explorer sums up the probable history of this pit as follows:—"that it was dug originally as a dwelling during the Bronze Age, and the flint celt may be of that date or subsequent. After having silted up to a certain height, the skeleton may have been buried in a grave dug in the silting . . .," and suggests that the coarse pottery may belong to the original pit, and the Romano-British ware to the age of the interment or a more recent time.

In another instance³ the same investigator noticed during his excavations at the ancient Winklesbury Camp, South Wiltshire, immediately below the eastern rampart and outside the ditch, a basin-shaped pit about 24 feet in diameter and 18 feet deep. This was seen to be bounded by a bank on the lower side, and was the site of what the explorer considered was probably a pit-dwelling, 12 feet 6 inches by 11 feet 3 inches, squared at the bottom, with an entrance to it on the lower or eastern side. The entrance was "1 foot wide at the bottom, and had a wooden step consisting of a plank 1½ inches thick, the blackened remains of which were found in the silting near the narrowest part of the opening at the bottom, with the remains of uprights forming probably a door to the dwelling. The floor of the pit was quite flat, and was covered for about 1 inch thick with the blackened remains of the roof which had fallen."

Marks of fire were seen on the chalk sides, which were smoothly cut.

¹ *Excavations in Cranborne Chase*, vol. ii, p. 222; and *Archæologia*, vol. xlii, p. 45, vol. xlii, p. 427.

² *Excavations*, vol. iv, pp. 42-43.

³ *Excavations*, vol. ii, p. 243.

The entrance passage sloped slightly towards the pit. The floor of the pit had originally been 7 feet beneath the surface, and had silted up to a height of 5·88 feet in the centre. The deposits of the lowest part of the silting consisted in the centre of 0·7 foot of turf mould, then 1·9 feet of black earth, below which was 3·0 feet of chalk rubble.

The relics in the silting were a small thin piece of iron band at a depth of 2 feet at the bottom of the black earth, two flint flakes with bulbs of percussion in the black earth, and fragments of red burnt clay, perhaps daubing of wattle-work. In the chalk rubble beneath were found a fragment of sandstone hollowed by rubbing, and a fragment of a bronze pin. Coarse hand-made pottery was got in the black earth.

The explorer states that the pit was probably earlier than the camp, and may have been partly filled up from the excavations from the ditch of the camp.

In the drift gravel or chalk at Highfield, near Salisbury, circular pit-dwellings of bee-hive form have been found singly and in groups (*Flint Chips*, p. 57).

The diameter at base ranged from 5½ to 14 feet, and the depth of the floor from 7 to 10 feet.

Pits which were probably ancient dwellings have been noticed near Wlithy (Young's *Hist. of Whitby*, vol. ii. pp. 666-683), and near Crich, Derbyshire (Bateman's *Vestiges of the Antiquities of Derbyshire*, p. 126). Others much larger than the Stoneykirk remains occur at Gallibury, Rowborough, and elsewhere in the Isle of Wight, and have been described by the Rev. Edmund Bell (*Journ. Brit. Arch. Assoc.*, 1855, vol. xi. pp. 305-313). At one site was found a human skeleton, but what is specially noteworthy is that the majority of the sites were oval and, to use Mr Bell's words, were "not in that advanced stage of construction of British houses described in some of the settlements of the Romanised Britons by R. C. Hoare (*Ancient Wiltshire*, part I. pp. 37 and 84) and by Sauls (*Notitia Britannia*, p. 9)." The Isle of Wight sites revealed apparently no relics useful in indicating the period of occupation.

There is a reference in *Scottish Notes and Queries* (Sept. 1887, p. 60; and Nov. 1887, p. 92) to a series of supposed pits still unexplored at Boddam, Aberdeenshire, where flint chippings and stone implements have been picked up.

At Spiennes, Belgium, in the vicinity of prehistoric flint mines, the sites of supposed Neolithic dwelling-huts were indicated by circular depressions 2 to 5 paces in diameter, but of no great depth.¹ In the huts were found beds of charcoal, various kinds of implements of stone, bone, and

¹ *Congrès International d'Anthrop. et d'Arch. Préhist.*, 1889, p. 578.

horn, and remains of food refuse. No doubt these sites, being on a chalky formation, were always quite dry. At Campigny, Seine Inférieure, France, sites have been found which belong probably to a much earlier time than the examples at Spiennes (Munro's *Prehistoric Scotland*, p. 332, quoted from *Revue Mensuelle*, pp. 366-408). They were circular pits excavated in quaternary gravels, and measured a few yards in diameter and about 4 feet in depth. The gravelly subsoil would here again be dry and would not necessitate a damp insulating floor. The industrial remains in the pits at Campigny consisted of hearths, a coarse pottery, and non-polished stone utensils; and the sites have supplied to French investigators a name to the period of transition between the Palæolithic and Neolithic periods. Vestiges of extinct dwarf pit-dwellers in Sakhalia have been recorded by Mr C. H. Hawes (*Brit. Assoc. Rep.*, 1902, p. 684).

Many primitive tribes at the present day have the flooring of their huts sunk under the surface. Underground dwellings, for example, are in use at Unyoro, Africa (Stanley's *Through the Dark Continent*, vol. i. p. 432), but the Siberian Yurts, described by Lord Avebury (*Prehistoric Times*, pp. 134 and 493), much more closely resemble the type of hut which was probably in use at Stoneykirk.

In the whole range of these instances there is no case, however, which exhibits the outstanding peculiarities of the Stoneykirk remains.

CHRONOLOGY.

Estimates of the age of the settlement may be based on the shape of the hut, and on the character of the relics recovered.

The long or oval hut would scarcely have been in extensive use in the same region and at the same period as the round hut. In any case, in the Scottish area one type probably originated before the other. Was then the oval hut anterior to the round hut? It is natural to consider the oval hut the more primitive, as it was more easily constructed. The round hut, when it reached a diameter of 20 or more feet, seems to have had the roof centrally supported, as in the Glastonbury examples. There are good grounds for believing two theories often propounded—that the construction of the early grave-chambers was in imitation of the architecture of dwellings, and that the long barrow of Britain belonged to the Age of Stone, and the round barrow to the Age of

Bronze. It may be taken, therefore, as probable that the long or oval type of dwelling is the earlier.

The presence of pottery is, of course, of great value in any effort to fix the chronological horizon of the sites. It is, unfortunately, impossible to tell whether the bases of the vessels were rounded, or flat; but further exploration may throw light upon this point. The ornamentation on the ware, and the shape of the rims, is more characteristic of the Stone Age than the Bronze Age.

While the pottery and utensils are all archaic, yet the absence of relics characteristic of Mediæval times or of the early Iron Age, such as objects of glass and vitreous paste or of any of the metals, does not allow us positively to assign the remains to a time earlier than these periods, though at present the evidence is strongly in favour of the sites having been anterior to the brochs, earth-houses, and the usual type of crannogs in Scotland. The character of the axe-marks points to the same conclusion. No vestiges of horn or lignite were noticed. Early wrought objects in horn are extremely rare in Wigtownshire, but not so relics of lignite, which have very frequently been found in Wigtownshire on sites of the Bronze Age, and of later times. While the type of oval hut in Stoneykirk has yielded no relics definitely characteristic of the Bronze Period or of any later age, the various pieces of evidence seem to point to the Stone Age as the period during which the sites were in use; yet the evidence is still too meagre to justify more than the offer of a suggestion as to the archaeological horizon to which this class of early dwelling may belong.

The situation of the settlement was well chosen, as the inhabitants could see a long distance in all directions, while the houses could, only with difficulty, be detected from afar, more especially as they were partly sunk under the surface and doubtless mound-like above.

The direction of the row of huts was also selected intelligently. The row follows the crest of the plateau and is on its sunny side.

The position of the individual houses is also noteworthy. It would seem that the entrance passage was preferred not at the end but in the

middle of one of the sides. As shown by the excavations, the east side seems to have been chosen. It is natural to expect the door to be placed there, as it would be protected from the prevailing rains and winds from the south and west.¹

Guided apparently by some such requirements, the prehistoric architect laid down the plan of the oval foundation in such case, so that the longer axis bore approximately north-west and south-east, and, it would appear, arranged that the entrance passage ran at right angles to that direction and was situated on the east side.

The inhabitants of this group of sites were workers in the wood of the birch, hazel, and alder, and had well shaped domestic pottery ornamented with incised and impressed work and work in relief. They lighted fires of some coniferous wood, and had a variety of implements of stone—scrapers, polishers, rubbing-stones, pounders, hammers, and anvils. They had an effective form of axe, with a smooth surface and a finely made edge. They carried on the manufacture of large and small flint implements from the rough nodules. The fact that they spent considerable time and labour in the construction of their houses tells that the method of life was at least in some measure settled, and not purely nomadic, and the occurrence of a group of sites may signify that a system of village life was in vogue.

The individuals who lived there did not follow the architectural methods of the Terrenate men of prehistoric North Italy, or the Terpen-dwellers of ancient Holland. They do not appear to have been like the crannog-builders who built their dwellings so as to have them more or less surrounded by water or marsh. They did not construct their

¹ General Pitt-Rivers, in his *Excavations*, vol. II. p. 243, in noting that the opening to a pit-dwelling ran 2° north of east, remarks that the "eastern aspect of the entrance to this pit will . . . strike those who have observed a similar occurrence elsewhere, and have supposed it to be an arrangement adapted for the worship of the rising sun by the people from the interior of the houses; but, on the other hand, it must not escape notice that the eastern side in this case is the downhill side, and, therefore, the only side available for an entrance, unless it were constructed on a great slope."

houses of stones half-underground or wholly subterranean like the earth-houses or weems, nor did they follow the methods of the hut-circle men who lived in circular wood and wattle huts built on the surface of the ground.

While the bottom of each pit was at some depth under the surface, it should not be forgotten that the supposed flooring was sufficiently near the prehistoric surface to make it necessary to have a good proportion of the cubical contents of the chamber above the level of the surface if the chamber were to be habitable. There is no reason to believe that the huts were open to the heavens, or that the excavated soil was removed from the spot. It then follows that the upper part of the dwellings was more or less mound-like in character, the heaped-up earth from the original excavation having assisted towards this appearance. It seems difficult to escape from such a conclusion.

The shape of the mound would naturally follow the plan, whether round or oval, of the structure covered by the mound. Again the structure would be in harmony necessarily with the plan of the foundations, the flooring, and the walls, all of which were apparently in the shape of a longish oval. It would appear then that the mounds were somewhat long in shape, though perhaps not so pronouncedly so as the plan of the wooden substructures.

In considering this peculiarity of the Stoneykirk remains, it is interesting to consider that most of the ancient British dwellings, built of wood and wattle, which have been examined and recorded, are round, and, further, that they belong to the Bronze, the Early Iron, and later periods. The huts which comprised the marsh village at Glastonbury, occupied a few years before the Romans arrived in that district, were roughly circular and about 20 feet in diameter. With the exception of the Isle of Wight specimens, the pit-dwellings found in England appear to have been circular, as were also the crannogs and hut-circles.

No stones were used in the Stoneykirk structures, and stones sufficiently large for building walls are rare in the locality. It seems safe to say that the walls were of turf and wood and wattle. If the places were

roofed, it is safe to assume further that at least a small amount of some covering of vegetable fibre, or even of soil or turf, rested upon the roof. A stoneless structure, however, could not bear the weight of a large amount of superincumbent matter; and the fact that a depression, and not a mound, marked each site indicates that a light form of roofing was employed. This roofing, after desertion of the settlement, would fall in, and the hollow would gradually become silted up.

As has been seen, the flooring arrangements were ingeniously, laboriously, and substantially contrived, and admirably adapted to the end in view. It is natural to believe that the less difficult matter of walling and roofing should also have been successfully met by the same men. Doubtless the whole place of abode, while very small, would be well suited to protect the inhabitants against the discomfort of too much sun, rain, wind, or cold.

It would be hazardous, nevertheless, to conjecture what exactly was the nature and appearance of the structures when entire. They were probably single-chambered wooden dwellings partly sunk under the surface level, and wholly, or in part, hidden by a mound of turf and earth.

Dwellings presenting the external appearance of mounds survived in Scotland to recent times.¹ This type of house seems to have existed at a very early period, and to have been copied, though perhaps on a smaller scale, but naturally in a more substantial style, in the architecture of graves.² There are thus cairns with internal sepulchral chambers.

¹ David MacRitchie's *Finnis, Fairies, and Picts*, p. 44; Sir Arthur Mitchell's *Past in the Present*, p. 59; *P.S.A. Scot.*, vol. vii, pp. 164-8.

² The affinity between resting-places for the dead and dwellings for the living is referred to by General Pitt-Rivers, who appears to have had a difficulty at times in ascertaining whether graves had been solely used as graves, or had previously been in use as pit-dwellings (*Excavations in Cranborne Chase*, vol. ii, p. 65). Mr W. J. Knowles (*Proc. Roy. Irish Acad.*, 3rd ser., vol. vi, No. 3, p. 234) has described a Neolithic hut-site at Whitepark Bay, County Antrim, which had been used as a grave. Prof. Nilsson, writing in 1843, was probably the first investigator to call attention to this subject (*The Primitive Inhabitants of Scandinavia*, pp. 124-169), by pointing out the striking similarity between Eskimanx huts and the Neolithic Scandinavian sepulchral structures. Modern instances of hut-burial have been cited by Lord Avebury (*Prehistoric Times*, p. 134).

Houses and graves of this type were usually of stone, but it is reasonable to believe that wood might take the place of stone in districts where stones of the size required for building purposes were not plentiful. Now, if it can be shown that grave-mounds with internal constructions of timber once existed, it is a fair inference that there may have been dwelling-mounds with timber-built chambers, the roof protected by turf or simply earth-covered. This link in the chain of evidence is fortunately forthcoming, for at least two cases in Britain have been carefully recorded of what appeared to be grave-mounds or barrows containing timber constructions in the interior—the Dalry mound, Ayrshire, which probably dated from the Bronze Age¹; and the Wor Barrow, Dorset, assigned to the Stone Age.² In the Wor Barrow district building-stones are scarce, and in the vicinity of the Wigtownshire sites building-stones are so difficult to procure that the fields are not bounded by stone walls, but are either fenced, hedged, or enclosed by earthen dykes.

As we have thus earth-hidden, stone-lined, sepulchral chambers constructed apparently in imitation of earth-hidden, stone-built dwellings, and also sepulchral constructions of timber within mounds, it is an easy deduction that wood-built chambers for the living once existed wholly or partly earth-hidden. Perhaps the evidence for such wood-built, earth-hidden dwellings is not only presumptive, but has become direct testimony, through the discoveries in Stoneykirk; but this point may be left for the decision of others.

In the Scottish area many unique non-historic and proto-historic archaeological phenomena have been observed, especially in the domains of art and architecture. May not the "piled pit" of Stoneykirk be another example of the ingenuity and perseverance in overcoming difficulties which seem to have characterised the prehistoric craftsman of North Britain?

¹ Described by the late R. W. Cochran-Patrick in the *Arch. and Hist. Colln. of Ayr and Wigtown*, vol. i. p. 55.

² *Excavations in Cranborne Chase*, vol. iv. p. 59.

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